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BULLETIN

OF THE

INTERNATIONAL

Medico-Legal Congress,

HELD JUNE 4, 5, 6 AND 7, 1889.

AT NEW YORK.

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TRANSACTIONS AND PAPERS READ,

WITH OFFICERS, COMMITTEES, MEMBERS

AND DELEGATES.

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PREFACE.

The stimulus given to the study of the science of Medical Jurisprudence by the labors of the Medico-Legal Society, and its extension of membership into all the States and countries of the American States, and the Canadian Provinces, as well as in foreign countries, had, as early as the year 1887, attracted the attention of the students of Forensic Medicine throughout the world.

The organization of the *Medico-Legal Journal* in June, 1883, had been an enormous factor in bringing to the attention of men of science in all countries, the labor of the Society which has, from small beginnings, after long years of labor as a local organization in the chief American city, expanded into a body not only national in character, but, in many respects, international in the plan and scope of its labors.

Some of the brightest minds in Forensic Medicine in foreign countries, had not only taken an interest in the American Society, but became actually identified with its membership, and a vice-president for the body was proposed for each of the American States and territories, and the British Provinces of North America, as well as for all nations in accord with the labors.

In my inaugural address to the Medico-Legal Society, January 10, 1888, in fulfilment of a plan previously formed, I made the following recommendation :

INTERNATIONAL CONGRESS OF MEDICAL JURISPRUDENCE.

I think the time has now come when this Society should take the necessary steps to hold a Congress of Medical Jurisprudence, in the City of New York, either in the fall of 1888, or the spring of 1889, for a full and complete discussion of the more important subjects now uppermost.

To this Congress we should invite as our guests, to be entertained by our members, during its session of at least three days, representative men from all countries.

A Committee should at once be named, to agree upon the subjects of discussion, and to take the preliminary steps, to secure contributions and papers, from the most distinguished Medico-Legal Jurists who cannot attend in person, and to fix the date of the Congress. A Committee should be named regarding proposed reforms in EXECUTION OF CRIMINALS now before our State Legislation.

Believing that this body, can do its best work through carefully selected Committees, I shall ask your authority to constitute them, for the various objects recommended if they meet with your favor.

The Society at its January meeting approved and adopted that recommendation.

A circular was published in the March number of the *Medico-Legal Journal* and sent throughout the various countries where our membership extended announcing this action.

The plan of nationalizing the Society was also approved and went forward at the same time with the preparations for the Congress of June, 1889.

The New York press lent the weight of its great influence to the movement, and especially the *N. Y. Herald*, the *N. Y. Tribune*, the *Mail and Express*, the *Sun*, and other journals.

The Congress was held in June, 1889, commencing the first Tuesday, and continued four days.

In the September number of the *Medico-Legal Journal* of 1888, the following announcement was made :

THE INTERNATIONAL CONGRESS OF MEDICAL JURISPRUDENCE IN NEW YORK.

'The action of the Medico-Legal Society in calling an International Congress of Medical Jurisprudence, to commence the 1st Tuesday of June, 1889, in the City of New York, lasting three or four days, has excited

great attention, both at home and abroad. The flattering notices of the press of this city, notably the New York *Herald* and the New York *Tribune*, have been echoed in the Medical and Legal Journals of this country, as well as the more prominent of the foreign journals of the Cognate Sciences. The new journal of Medical Jurisprudence in Madrid, Spain, gives the proposed Congress extended notice, and promises its aid and support to the meeting of representative men from all countries, upon the sciences, as do a large number of foreign scientific journals.

The impetus to the Nationalization of the Medico-Legal Society, by the addition, during the past few months, of the current year, of more than one hundred and fifty new members, selected from among eminent and representative men of both professions, and from chemists and scientists who are eligile to membership, in nearly every State and Territory in the United States, lends greater interest to the Congress to be held here next June, than usual, and will arouse great interest in every section of this country.

It is rather early to make any announcement of the foreign delegates and papers promised, which will doubtless be sufficiently advanced to publish in our next issue. A large number have announced that they will prepare papers to be read on the occasion, of which we shall announce a preliminary list in the December JOURNAL.

The plan of Nationalization has been framed, so as to admit active members in the various Provinces of Canada and other English Colonies, as well as all foreign countries, with a Vice-President elected in each, under which active members in England and New Zealand have been elected recently, and which will doubtless extend to many countries.

The invitation of the Medico-Legal Society for the proposed Congress, is to all persons interested in the science, whether members of the Society or not, and the various scientific societies and bodies of our own and foreign countries, are invited to co-operate in the work and to send representatives and delegates to the Congress.

NOTICE TO MEMBERS.

57 Broadway, NEW YORK, September, 1888.

To the Active, Corresponding and Honorary Members of the Medico-Legal Society:

Your numbers are now so large that I am unable to write you all personally. I wish to invite each of you to contribute a paper to be read at the International Medico-Legal Congress, to be held in the City of New York, commencing on the first Tuesday of June, 1889. Please notify me if you accept, and as soon as convenient send the title of your paper.

As this Congress is not limited to our members, but is free to all who take an interest in the science, it is hoped that every member will interest himself to secure papers from scientists home or foreign for that occasion, and advise me of the result. Respectfully,

CLARK BELL,
President Medico-Legal Society.

This journal noticed from time to time the progress of

the work, and in March, 1889, the following circular was issued and published:

AMERICAN INTERNATIONAL CONGRESS OF MEDICAL JURISPRUDENCE.

THE MEDICO-LEGAL SOCIETY of New York has decided to hold, under its auspices, an INTERNATIONAL CONGRESS OF MEDICAL JURISPRUDENCE at which representatives from all countries are invited to attend and contribute papers.

The immense progress made in this century in the sciences of biology, neurology, psychiatry physiology, psychology and toxicology have enhanced our knowledge of the functions of brain, nervous organization, and elevated medico-legal science to a higher rank than it ever occupied before. The application of justice is governed by a higher sense of humanity, with our increased knowledge of the physical organization of the human mind. The conviction has therefore gained ground, that medicine and jurisprudence must combine closer for a clearer definition, and the better understanding of the principles that are rooted in both branches of learning, in the exercise of functions which require practical application in the government of society. This is the special field of medico-legal science, and it calls for the most intimate relationship between the faculties of medicine and of law. Eminent men in both hemispheres have rendered great service in the elucidation of the great principles underlying medico-legal science. In most of the European countries forensic medicine is taught by great specialists attached to the universities, and the same is done in some of our own colleges; nevertheless, there is no uniform practice in the application of these principles to

the administration of justice. The courts in Germany obtain the opinions of experts officially attached there, which are, however, often disregarded, and neither in this country nor in Europe are the courts bound by the professional opinions of the medical experts. The divergence of views must be greatly ascribed to the obscurity which still surrounds certain scientific facts outside of the medical profession, the necessary effect of the absence of intimate and close relationship between the faculties of law and medicine.

To bring about a nearer approach of the two learned professions in the interest of medico-legal science and a more uniform application of its principles throughout the civilized world, our Society has determined to invite the votaries of medico-legal science, the men who have attained eminence in the professions of medicine and law in any part of the world, whose voice will be heard with that respect which is accorded to authority, to meet at an international congress to be held in the city of New York, on the first Tuesday in June, 1889, at Steinway Hall.

In issuing this call we voice the sentiments of leading jurists and alienists, of prominent members of the bar, and the medical faculty of our whole country, and we may promise to all the gentlemen who will attend a cordial welcome by our citizens and members.

A congress like this will advance mightily the cause of justice and humanity, and will pave the way for a clearer definition of the principles which should govern the administration of justice in our enlightened age. The intercourse between men eminent in their profession, the exchange of views between them, the treatment and discussions of questions that form an integral part of both law and medicine, by those whose voices are

recognized as the leaders of science, will form another link in the universality of all true science.

The Congress will hold a session of four days. Members of the Medico-Legal Society will entertain as guests all foreign visitors—and arrangements will be made for reduced rates of ocean and railway travel for those who attend from a distance.

The leading societies, home and foreign, who are pursuing kindred studies, are invited to send delegates.

The General Committee of Arrangements is herewith announced.

These who have been placed upon the International Committee of Arrangements for each State, territory or country will please at once act as our representative in the State or Country where they reside, and are authorized to obtain titles of papers and names of those who will take part in the Congress, either by attending or contributing papers.

To assist in defraying the expenses of the Congress, a roll will be made of those who desire to become members of the Congress, and contribute a fee of $3, which will entitle them to a copy of the Bulletin free. Members of the Society who are unable to attend, are urged to enroll as members to aid in defraying expenses, and relieve the Society from this burden.

This should be remitted to Mr. E. W. Chamberlain, Treasurer, No. 120 Broadway, who will keep it as a separate and special fund for the expenses of the Congress.

Members of the Society, residing in the various states of the Union, or the CANADAS, will be entertained by the resident members, on the same footing as foreign delegates or invited guests.

All Active, Honorary or Corresponding members who

will contribute papers, to be read at this Congress, will please forward their names and the title of their papers to the Corresponding Secretary or to the President of the Society, at No. 57 Broadway, N. Y. City.

Officers of scientific bodies, in sympathy with Medico-Legal studies, will please lay this announcement before the members of their societies.

All students of Forensic Medicine or its kindred and allied sciences, are invited to attend and to contribute papers to be read. We request you to inform us of your decision and of the subject which you may eventually desire to speak upon or the treatise which you may submit. The sooner you can communicate your pleasure to us, the more you will facilitate the labors of the committee who are charged with the necessary preparations for the work.

Please advise the undersigned if you will contribute a paper to this Congress if unable to be present. A bulletin of the transactions will be published, at a cost of $3.00 in cloth or $2.00 in paper. Members or others desiring to secure the same will please remit to the president of the society.

CLARK BELL,
President.

ALBERT BACH,
Secretary.

MORITZ ELLINGER,
Cor. Secretary.

NEW YORK, March, 1889.

Messrs. Steinway & Sons., donated the use of Steinway Hall for the Congress, and it was held in that hall on June 4th, 5th, 6th, and 7th, 1889.

It was followed by a banquet, at the Marlborough Hotel, on the evening of the 7th of June.

The Congress was in all ways an enormous success, and it perfected a permanent organization, elected a board of officers, and resolved to hold its 2d session in 1892, on the occasion of the International Exposition in the United States, at such time and place as should be fixed by the board of officers.

The present volume is a record of the transactions of that Congress, and a reproduction of a considerable number of the papers presented and made to that body.

The delay in its preparation has been too great, but will be excused when the magnitude and cost of the work is considered, and the fact that the burden fell upon a few of the more ardent friends of the science.

New York, August 4th, 1891.

Clark Bell.

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TRANSACTIONS OF THE AMERICAN INTERNATIONAL CONGRESS OF MEDICAL JURISPRUDENCE.

FIRST DAY—JUNE 4—MORNING SESSION.

The Congress met at Steinway Hall, which was beautifully decorated with the flags of all nations and the shields of the American States.

Mr. CLARK BELL: As Chairman of the Committee of Arrangements, I call this Congress to order, and ask the Rev. Dr. Talmage to open the meeting with prayer.

Prayer by Rev. Dr. T. De Witt Talmage:

O God! we implore thy blessing upon this assemblage gathered from different parts of this land, and from other lands in the interest of suffering humanity, the legal and medical professions banding together for purposes of righteousness and kindness. We thank thee for the reinforcement which medical jurisprudence has already given to the court room in the detection of crime, and in the merciful treatment of the demented, who need to be relegated to kindly asylums rather than put under the flagellation of the law. Bless our doctors, our judges, our attorneys, our halls of justice and our hospitals. Put a speedy end to the long groan of the world's suffering. Dethrone narcotics and alcoholism, against the awful reign of which these professional men are constantly battling. Teach the human race to take better care of their bodies, and since the human body is the temple of the Holy Ghost, may they beware how they deface its walls or make unclean sacrifice upon its altar.

May we all be able to put into the service of God and humanity strong nerves, and lungs of easy respiration and hearts of regular beat. May the world come to appreciate muscular Christianity. Fill the nations with bounding and robust health. May the discussions of these four days be spirited, wise and salutary. May the temporary stay of these delegates from other cities be delightful and productive of a higher feeling of professional brotherhood. Protect their families during their absence, putting one wing of thy care over those who are here, and the other wing of thy care over their loved ones far away. May Science and Religion go side by side in the effort to make the world better. Let there be no quarrel be-

tween them, since the same God who by the hand of prophet wrote on parchment, by the hand of the storm wrote on the rocks. May the Christ who was himself a Physician, and the God who bows to nothing in the universe except law—but bows to that—preside over this International Congress of Medical Jurisprudence. And to God the only wise, the only good, the only great, be honor and dominion and victory and song, world without end. Amen.

Mr. CLARK BELL: Ladies and Gentlemen: The assemblage of an International Congress of Medical Jurisprudence in this country, is an event of considerable importance, from a scientific standpoint, especially as this is the first occasion, of the kind upon this continent.

It is my fortune to be Chairman of the Committee of Arrangements, of the Medico-Legal Society of New York, under whose auspices this Congress has been called to assemble, and as such I tender to you, in its name and behalf, a welcome to this great metropolitan city. I assure you of its deep interest in your deliberations, and in the efforts made in your behalf, and in behalf of the advance of that science, and of such recognition as we believe it is proper your labors should receive.

I must not say all I could wish, as there are others to follow me, but in behalf of the Medico-Legal Society, whose guests you are, I assure you of a hearty welcome. I take a peculiar pleasure in introducing to you the Lieutenant Governor of the State, the Hon. Edward F. Jones, who has consented to preside as Chairman of this session, and to take the chair during the opening ceremonies.

Lieut. Governor EDWARD F. JONES, on taking the chair, said:

Gentlemen of the International Congress of Medical Jurisprudence:

Through the courtesy of your President, I have been invited to preside at the opening exercises of this International Congress.

I can conceive of no reason that could have induced this selection, except the desire on his part to compliment an old friend.

It is certainly a compliment of which any one should be proud.

I am of neither of your professions—not skilled in medicine or learned in the law, simply one of the people, who has been honored by them beyond his merits.

Perhaps my selection may have arisen from a desire on your part, as Burns expressed it, "to see ourselves as others see us."

Should I express plainly from the people's standpoint, opinions regarding your respective professions, that may savor more of truth than flattery, I would in advance disclaim discourteous intent, and bespeak your charity. Within my view are the representative men of the two most eminent professions, not only of our day, but this

rank has been held by them from the time that man realized that his intellect was like a plant, susceptible of improvement by cultivation.

Learning ever has and ever will command respect, and this esteem is in the ratio of knowledge.

The more a man knows, the greater will be his veneration for the man who knows more than he.

You gentlemen of these two learned professions are entitled to the eminent position which you hold in the estimation of the world.

It is yours by right of acquisition.

No potentate can confer the rank upon you ; he can only certify thereto. It came not by primogeniture or inheritance. It is the reward of unremitting devotion to a grand purpose. It is the wages paid for labor, or we might almost say it is of your own creation.

The value of the knowledge that entitles you to this distinguishment is beyond appraisal.

It is the only wealth of which you cannot be robbed.

It is the most precious of riches, and you have the supreme satisfaction of being its *honest* possessor. No wrong has been committed in its acquirement and no one is the poorer.

The search for knowledge is like delving in an inexhaustible mine which every one, who will, is free to work.

There is no question of results, all are compensated according to the labor expended and their talent to receive.

We hear no communistic demands for an equal distribution of this species of property.

Knowledge forms no trusts. Great corporate bodies cannot control, neither is it within the province of syndicates.

Combines are futile to prevent its acquisition.

Legislative enactments are powerless in its suppression.

True liberty exists only in the realms of knowledge. Financial wealth occupies no relative position with knowledge, for that can only be created to a limited extent, beyond that its acquisition involves a loss to the source from which it is derived.

Medicine and law. May I be permitted to treat the two sciences rather in their relation to the people than to each other.

Medicine and law. It is fitting that their votaries should clasp hands.

They approached the temple of knowledge by the same route; their early paths were identical. At the base of the hill they chose different courses to reach the summit where, in the estimation of the people they stand upon a level, although the lawyer perhaps justly claims precedence from the fact that one may be at the head of the healing art with his knowledge circumscribed by the limits of the human body. He even may be ignorant of all law beyond that pertaining to the duties of good citizenship.

But the truly great lawyer must know not only all that technically pertains to his own profession, but also medicine, surgery, science and arts, manufactures, mechanics and mining, even commerce and navigation, business in all its relations, matters ecclesiastical and temporal, be familiar with the follies and frivolities of life as well as its sad and sober realities.

In fact there is no subject about which there can be a possible difference of opinion of which it is not an absolute necessity that the lawyer who aspires to eminence in his profession should have a thorough knowledge.

If there were no difference of opinion, Doctors might thrive upon the weakness of our frail bodies, but lawyers would starve, for it is upon disagreement that they exist.

We have even heard it intimated that some of low degree have engendered strife and even gone so far as to counsel law breaking that they might profit thereby.

But who ever heard of a Doctor that advised a violation of the laws of nature that he might have a patient to cure?

As between the Doctor and lawyer, we may respect and admire the learning of the latter, but when it comes to the question of next friend, it is the Doctor that holds the place.

Perhaps we *could* get along, and if it were not for the presence in which I stand I might venture the opinion that we should be better off without lawyers.

But the Doctor; he it is that greets us at the threshold of existence; we meet him at every turn in our journey through life; value him at his reality, and when the end approaches that comes to all, we hail with unbounded satisfaction his presence.

"Unto whom much is given, of him much will be required."

What answer have your respective professions to make when an account of your stewardship is demanded. Although the great knowledge you possess is all your own, still your relation to mankind has its obligations.

In our Republican form of Government we are all sovereigns and all subjects, and as one of the people I trust it will not be deemed impertinent for me to ask, how have you served your country and your fellows?

Is mankind the gainer for your having existed?

You gentlemen of the medical fraternity stand better in the estimation of the people, in this respect, than your friends, the lawyers. Your relations with humanity are closer. The sympathetic bond that exists between Doctor and patient can never be equalled by any tie of lawyer and client. We love our Doctor. Who ever loved his lawyer?

The Doctor's relation to the people is mainly personal; it is with individuals; the same between lawyer and client, but the legal pro-

fession goes much further, which inspires the question to what extent in our country is it responsible for existing conditions? We are warned against Plutocracy and the influence of money in public affairs, but the "wealth of the Indies" would be of but little account were not its operations guided by the light that legal science affords. Am I wrong in saying that the legal profession is the power that controls in public affairs everything from the machinery of Government down to the most trivial details of citizenship.

In the increase of its power it has gradually assumed without plan, intention or preconcert, a fearful responsibility, none the less than the stability of our Government.

Look which way you may for threatening dangers and you will find members of the legal profession retained to construe the laws in their support.

Lawyers control legislation. They not only make our laws, but what is of equal importance, they interpret them. Members of the profession sit in our legislative halls as the paid attorneys of special interests antagonistic to those of the people. Measures of public concern are advocated or opposed by the relation of their clients.

The ablest men in the profession are retained for the prosecution in the great case of Corporate greed versus the people.

Were it not for the ingenuity of the skilled counsellor, the scheming financier would have more respect for the rights of property. Were it not for the counsel for the defence more men would hesitate at the threshold of crime. In early days in the history of our country, the clergy were the formulators of opinions and the conservators of public interest, but in this liberal age it is the legal profession that heads the columns and should clear the route for wholesome progress. I am told that members of the bar have a code of ethics which is a model of morality and justice.

If the practice of the present day conforms thereto, I have misjudged, and they have a right to appeal to that highest of all earthly tribunals—public opinion.

Medicine and law. Their relation each to the other in modern civilization is very close. The result of your deliberations will be a firmer alliance from which each will derive benefit, but the greatest good will be to people.

The Chairman, Lieut. Governor JONES: It is my pleasure to present to this Congress Ex-Chief Justice Noah Davis, who has won distinction both at the Bar and upon the Bench.

Judge NOAH DAVIS: *Mr. President, Ladies and Gentlemen:* I shall not stand here to defend the lawyers whom the Lieutenant Governor has so fiercely assailed. I do desire, however, in a very

few words, to assure you, that when doctors were mentioned by Gov. Jones, Doctors of Divinity were meant. But he dared not say that! He hoped to flatter the doctors of medicine, who happen to be in the room, while the doctors of divinity are not so largely represented, and presumed that the doctors of medicine would appropriate to themselves all the kind things that were said, and consider them as belonging to the medical profession. I took his remarks quite the other way.

I am very glad to be present this morning, at the opening of this Congress, although I am due elsewhere by my professional engagements. I came here simply to show, that I take a great interest in the proceedings of this body. But I am unable to remain here to-day to participate in the exercises, because I am delaying proceedings elsewhere, in which I am connected in my professional capacity, and I shall therefore enter upon no extended discussion at this time. I wish to say that the discussions of this Congress concerning the interests of humanity and morality, as well as those of the professions of medicine and law, will, I hope and believe, be presented in such a way that when the proceedings of this Congress shall be published to the world, they will be regarded as the advanced public opinion upon all these subjects.

I must now leave, because, as I have already said, I am detaining others elsewhere, but I hope to be present at the sessions on various occasions, and to be able then to take some part in your deliberations.

Chairman Gov. Jones—I now have the pleasure of introducing to you Moritz Ellinger, Esq., Corresponding Secretary of the Medico-Legal Society.

MORITZ ELLINGER, ESQ.

It is the first time that a congress, composed of representatives of the medical and legal faculties, assembles in this country in the interest of medico-legal science. It is only in modern times that societies have been forming for the purpose of embodying into our laws the results of the advanced knowledge gained in psychology, physiology and psychiatry.

Medico-Legal Science in its practical application is confined mostly to the better administration of justice and its humanization. It takes account of the motives, the passions, the control and want of control, of those who come before the human tribunal to answer for their deeds. The courts, in order to better inform themselves of the normal condition of the subject so brought before them, called in the aid of those who, by their study, experience and intimate knowledge, were qualified to enquire into the mental and physical condition of the persons to be

dealt with by justice. It is only within this century that the conviction has gained ground that a close relationship between the medical faculty and the legal faculty must needs be established in order to harmonize fuller and better the inter-related functions exercised by them. It has been recognized that the evidence given in court by medical experts should be heard by judges who are conversant with the nice scientific questions at issue. Medico-Legal science as taught at the colleges and universities is not sufficient to cause a clear light to be shed upon the various questions that come up for decision. Only general principles can be laid down and taught at colleges and universities, but the various questions as they arise in law, with the ever-changing phases developed by human nature, must be dealt with according to the peculiar surroundings which condition each case. The consideration of each especial case and the cases analogous should be based upon a thorough investigation had before bodies composed of men who have made the study of physiology, medicine and pathology a specialty, and those whose field of study occupies the realm of law-making, law administering and law-interpreting. Until now, especially in this country, the physician who testifies in courts regarding his investigation of individual cases, is looked upon by the court with the suspicion that his views in the case may have been influenced by the material interests he has at stake. This is probably the same case in England, where, on an average, the testimony of the expert is looked upon as of no greater value than that of the ordinary witness, and it is not surprising, therefore, that up to within the most recent times, cases have been decided in English and American courts which run counter to the opinion of all respectable members of the medical profession. It is, therefore, in the interest of advanced humanity, of a new administration of justice, that Medico-Legal societies have been formed which make it their exclusive object to bring about a closer relationship between the two faculties, those of law and of medicine

Science in modern times is not confined to one nation or one country. It is cosmopolitan, and the advantages gained by the meetings of the exponents of the various branches of science, which are generally composed of the best representatives of science in each country, have done much to enhance the knowledge in each branch.

Those interested in Medico-Legal Science should follow their colleagues and meet from time to time in international conventions. The laws which underlie the administration of justice in various countries, as far as they are governed by Medico-Legal principles, should be compared. The progress made in one country should be transferred to all countries; a general acceptance of the principles agreed upon by those conventions may be expected, and the potent voice of men

whose authority will be generally recognized and find an echo in every legislative and judicial body throughout the world. This being the first congress assembled in our country, it will be our business to lay the foundation for the permanent co-operation of the various societies existing in this country and abroad, forming a central medium of communication, and bringing in contact the minds engaged throughout the world in solving the great problems which are brought from time to time before the Medico-Legal Association. This congress should not be confined simply to the reading and discussing of papers, but an organization should be formed for the consideration of those questions that might form the subject of future deliberations, and which in the meanwhile, might be investigated and deliberated upon by competent committees. There should also be plans perfected for the establishment of branch societies in all civilized countries of the world. It will be well, perhaps, to call the attention of the medical faculty to the overshadowing interest which they have in the building up of these societies. The personal jealousy existing between the court and medical expert can only be bridged over and obliterated by more frequent and more intimate association between the two professions.

Let me hope, then, and I express the hope in the name of the Medico-Legal Society of New York, that this congress will lay the foundation for permanent work in the interest of greater progress in the administration of justice and for the advancement of humanity.

Chairman LIEUT. GOV. JONES—We also have another gentleman here from New Orleans, who is connected with the medical and legal departments of that city, and is Coroner of New Orleans. I take pleasure in introducing to you Dr. Le Monnier.

DR. Y. R. LE MONNIER—*Mr. President, Ladies and Gentlemen*: It is with pride that I find myself among you, coming, as I do, from the far South to take part in this Medico-Legal Congress. My presence here, therefore, is characteristic of the scope of its consistency and the breadth of its purpose. Whenever we as Americans move in any direction we do it for success. I hope that this body which assembles to-day for the first time in the history of this country, will, like everything that has preceeded it, be a success; and that it may contribute to make the science in America, which to-day is in its infancy, stand at no distant time at the head of the world. It is science, gentlemen, that unites the medical and legal professions, and it is science that is to be the safe guard to prevent or detect crime. It is this which has taught us to care for the unfortunate

insane, our fellow beings who are as incompetent as new born babes, for they are unable to know what they want. The law cares for them now, with that kindness which prevents them from being thrown into a dungeon as outcasts, as was done in days gone by, or considered as evil spirits. Human science has enabled us to throw a safeguard around the deaf and the dumb, and enabled them to be useful citizens in the community. I do not believe for a single moment that the man who has lost his reason is a useless idiot. Going through our insane asylums, we are astonished to see men who have lost their reason still able to be of assistance to their fellowmen. I hope, Mr. President, that this Congress will be but the opening wedge of our success, and the predecessor of others, still more influential and crowned by a still larger attendance.

Chairman Gov. JONES—I now have the pleasure of introducing to you Professor Thwing, who represents one of our Medical Colleges, and various educational interests.

PROF. E. P. THWING :—*Mr. President, Ladies and Gentlemen :* The tone and temper of the hour are congratulatory, and properly so. The programme in my hand is appetising ; the composition of the Congress is prophetic. We bid our guests from this and other lands, the same hearty welcome, that has been extended to American scholars in distant cities and in lands beyond the sea. The tasteful decorations of this hall remind us that this is no local and provisional affair. They represent all our states and different nations. Though silent, they are eloquent voices of welcome.

This Congress is fortunate in the period and place of its convocation. The stirring words of the silvery-tongued orators of our Centennial have hardly died away on our ears, reminding us of the political factors of our national life. But there are other tutelar forces of our nascent civilization which this Congress makes conspicuous. This first century of American medicine and American jurisprudence is fruitful in its suggestiveness. There is no country in the world, according to Edmund Burke, where Law is so generally studied as in America. De Tocqueville mentions it as one of the most potent forces of our national life. There is still, however, opportunity for advancement, especially in the illumination of those legal questions where the prosecution is met by the plea of insanity. The lawyer and jurist should not lack a scientific spirit, and men of science need to cultivate a judicial temper. Laws are changing. They are born; they live, they die. But for the flexibility of our political system it never would have survived the crisis of its first century. As modern physiological chemistry has given agriculture a scientific basis, so psychology is to give a richer development to

medicine and law in the near future. Each of the learned professions, divinity, law and medicine, is elevating the standard of admission to its ranks. The curriculum is being enlarged by a third or fourth year, by post graduate work, or compulsory examinations. The Royal Commission in London in connection with the founding of the new Albert University, has been considering this matter of a broader preliminary education for medical students, one that shall be free from the narrowing influences of tradition that have been felt in English academic life.

The outlook to-day is inspiring. The suggestions of Mr. Ellinger as to the future, and the influence which this International Congress may set in motion, are exhilirating. In the oceanic breadth of modern scientific thought shall we stand still like islands or move on like ships?

We are fortunate in our place of convocation. For, is not New York the commercial centre of our American life? Were I to say the centre of our literary or scientific life, our delegates from the "Hub" might raise a hub-bub. Boston, in which, once born, some fancy they need not be "born again;" where school girls read tragedies in Greek, as they sit in street cars, and where conductors and drivers dispute about metaphysics, as was the case the other day, where a conductor was heard scornfully to say to the driver "You are but a personality; I am an individuality!" Boston, I say, is no mean city. Can I question its intellectual supremacy? Was I not bred there, and on Boston Brown bread, too? Boston is the brain of New England. Let New England lead the world! Nevertheless, New York City is a good place for the first gathering of the international representatives of forensic medicine. Did time allow, I might speak of the rise and progress of legal lore in this city from the days of our illustrous citizen, Chancellor Kent, till now, but Mr. Silliman, in his "Sixty Years at the Bar," has anticipated me, and I refer you to that elaborate review of his at last Wednesday's banquet. The past is honorable, but the future will far excel it, and the doings of this Congress, cannot but give a healthful impulse to popular thought and professional investigation.

Chairman Gov. JONES.—I will now call upon and introduce to you Roger Foster, Esq., of the New York Bar.

Mr. ROGER FOSTER:

Mr. President, Ladies and Gentlemen: When my friend, Mr. Bell, told me this morning that he wished me to address this audience, he said: "Now, Foster, be sure that you don't speak more than five minutes." I said there would be no fear of that, for I could tell all I knew of medical jurisprudence in a much shorter space of time.

After several years spent in attendance upon the debates of the Medico-Legal Society, and the study of its publications, I have thoroughly learned one thing, namely: never to take a step in a case involving a question involving medical jurisprudence, without first retaining the aid of an expert of undoubted ability and reputation. In that way I have, more than once, won a case, through which I have gained some little money and reputation, when, in truth, the whole credit of the victory was due to the intelligent physician or scientist who sat beside me, and by his suggestion of arguments and questions to be put upon cross-examination, taught me how to convince the court and jury that my client was in the right.

It is a pleasure to meet so many of my professional brethren, as well as members of the other learned profession, who are here assembled from different parts of the world.

There is often too little harmony between lawyers and physicians. This, like most antipathies, is founded upon ignorance. The methods of investigation in a laboratory or dissecting room differ so widely, from those used in a court, or lawyer's office, that they who are accustomed to the use of one, often cannot comprehend the advantages of the other. Hence the reciprocal criticism that is too often heard: "The reference by the advocate, to Dr. Sangrad;" "The allusion by the surgeon to Serjeant Buzfuz." By close association, by the interchange of thoughts, and the comparison of ideas in scientific investigation, pursued together, we learn to understand each other better, and consequently to respect each other more.

It is a pleasure, also, to see here, sitting as delegates to the first Congress of Medical Jurisprudence, representatives of the opposite sex, women who have won honored names in the practice of medicine, here and elsewhere. It is a matter of some regret to us, who are members of the bar, that no woman has had the courage to come down, and practice law here, as has been done in Boston and elsewhere. But that regret is tempered by another feeling, our fear that, if we had to enter into competition with them, we would soon be driven to the wall.

The disastrous effects to men, of the invasion of lawyers' offices by women, have been already felt in this city. Until a few years ago, there still existed and flourished, a race of men whose history was older than that of Christianity—whose occupation was founded before these scribes lived, who were the allies of the Pharisees. The engrossers and copyists have disappeared from our midst; they can no longer be found; they have taken to drink or to the river, having been conquered in the battle of life, by the superior ability of the petticoated typewriter.

We have also here one of the most distinguished investigators in our branch of science, one who is known throughout the country. I am informed that, concealed amongst those bonnets, sits the heroine

of the most daring exploit in the history of medical jurisprudence, she who feigned insanity in order to examine the asylum at Blackwell's Island, Miss Nellie Bly, of the New York *World*. We welcome her, also, to our ranks.

But, Mr. President, my five minutes must be long since exhausted, and I have broken my promise to you. In closing, let me express the hope that this Congress will prove of benefit to humanity, by increasing two things, the best as well as the rarest—health and justice.

LIEUT.-GOV. JONES, Chairman:—I have the pleasure of calling now upon Prof. Isaac Lewis Peet, whom I am delighted to introduce as one of the earliest members of the Medico-Legal Society and one of the foremost of the associates in this congress, and whom I now ask to address you.

Prof. ISAAC LEWIS PEET: Mr. President, ladies and gentlemen, I always have this excuse for not making a speech—that all my life has been spent in the world of silence. My father before me was an educator of the deaf, and consequently, my earliest years were passed among a class of persons who could neither hear nor speak, and my whole life until the present time has been spent in the endeavor to ameliorate the condition of these unfortunate beings. They form a peculiar class. They are in a peculiar condition, so far as original responsibility is concerned; peculiar methods have to be employed to bring them to the same condition, in which their more fortunate fellow-beings are found, who can hear and speak.

There are very many questions connected with their original and subsequent conditions, as under the influence of or influenced by education, which require the deepest study, so far as psychology is concerned; and it is no wonder that the questions, growing out of this special class and their condition, should have led me early to association with a body of men, who were de-

voted to a study of all questions, in which human beings were to be considered, in regard to their relations to law and society, which takes up the rights of human being, when those rights seem to be interfered with. The conditions of this class of people differ from the ordinary conditions of mankind and society, in which the medical man, and the man who is brought into special relations with similar classes of humanity, like myself, and like the man who has interested us in the discussion of the law, they are brought together in order that these questions may be thoroughly and absolutely understood.

The Medico-Legal Society, started many years ago, under the most intelligent auspices, with the most earnest devotion on the part of its founders. It occupies a unique position in the world—unique on account of its name—the Medico-Legal Society; unique on account of the objects it sought to achieve; unique because it was the first in this or any country, and now the only one which embraces the whole country, which has members in every State in the Union; unique in having called together a congress of all nations—of representative men of all nations—to consider these subjects. I hope, as a result of this congress, its work and influence will be strengthened, and that much good will be accomplished for the benefit of humanity through its influence, and through the influence of the different societies here represented. I am especially glad that societies in other lands can correspond with it, and through this congress be brought in close relations with us all. I look upon this congress as marking a new era in human progress. I believe that as a result of its deliberations, and of the discussion of the special questions, which will be brought before it, the world will be benefited by it.

I can state, sir, from close observation of the plans

and scope of this congress, and as a member of the Medico-Legal Society, that in our journal, in our purposes, and in our president, we feel as if we had secured the means of benefiting the cause, and promulgating and propagating it, as we could not if we had any other man to lead us.

Mr. CLARK BELL: I have received a telegram from Col. John R. Fellows, who was announced to speak this morning, stating that he was engaged in court and unable to come; also from Judge John F. Dillon, who was likewise detained by professional engagements he could not break. I hold also in my hand a telegram from Judge Montgomery, of Washington, saying that he is unable to attend to-day's session, but will come on, later. Prof. Paul F. Munde who consented to speak sends me word that he is unavoidably detained as is Mr. Chauncey M. Depew and Mr. Simon Stern both of whom had consented to do so at the opening ceremonies.

Mr. CLARK BELL: Mr. Chairman, I move that the Chair name a committee of five on Basis of the Congress and a Permanent Organization. Carried.

The Chair appointed the following committee:

Dr. Y. R. Le Monnier, chairman, of Louisiana; Mrs. M. Louise Thomas, of Pennsylvania; Hon. Judge Wm. A. Fisher, of Baltimore, Md.; Dr. Isaac Lewis Peet, of New York; Dr. W. J. Lewis, of Connecticut.

Mr. BELL: Mr. Chairman; while the Committee on Permanent Organization is in session, I desire to request delegates from abroad to please leave their names and present addresses with the stenographer or secretaries, so that provision can be made for their entertainment by the society. We have no means of knowing who or where they are, without they furnish their names.

I have here some invitations I desire to read:

From the New York World:—

The *World* will be very glad, indeed, to have the representatives of the Medical-Legal Congress visit their press-rooms, and witness the operation of their power-presses, where they can be seen every afternoon, between one and six o'clock, and ten and half-past two o'clock in the morning. If this invitation is accepted, I can arrange to have one of the presses operated between eight and twelve o'clock P. M., which would probably be more convenient for the delegates.

Very respectfully,

JOHN A. COCKRELL,
Mn'g Editor N. Y. World.

Mr. BELL: I move that the invitation to visit the *World* press-rooms be accepted, and the time of acceptance to be left to the executive officers. Carried.

Mr. BELL: Mr. Chairman, I also have an invitation from the Commissioners of Charities and Corrections, of New York City, to the members and delegates to the Congress to visit the New York City institutions for the insane. A steamboat will start at 1:30 o'clock on Thursday aftertnoon, 6th instant. The Committee of Arrangements have taken the liberty of accepting this invitation in behalf of the Congress, and it now comes before the Congress for action.

On motion, the action of the committee was approved, and the invitation accepted.

Mr. BELL: I hold in my hand, Mr. Chairman, an invitation from the President of the Board of Trustees and from the Medical Director of the State Insane Asylum, at Morris Plains, N. J., in which the delegates from this body who desire to visit that institution are invited to do so. This is the result of a correspondence between the officials of that institution and myself. As our days are all taken up by the programme prior to Saturday, I would suggest that the invitation be accepted for the morning of that day.

The invitation was accepted, with the thanks of the Congress, for 10 A. M. of Saturday, 8th instant.

Mr. BELL: Mr. Chairmain, I have a letter from Dr. T. R. Buckham, of Flint, Michigan, which he requests me to read before the Congress:

FLINT, Mich., 29th May, 1889.

CLARK BELL, Esquire, President International Congress Medical-Jurisprudence, New York:

DEAR SIR:—I very much regret that my broken bones are not yet strong enough to warrant my leaving home next week, so I shall have to deny myself the very great pleasure and profit I had anticipated in being with you next week. I feel the disappointment keenly. I shall read the fullest report of your proceedings I can obtain with great interest. I am, however, delighted that we have some important, substantial improvements to report to our trans-Atlantic brethren in our specialty. Less than two years ago, many of our courts decided insanity cases, as diseases of the mind, by the knowledge of "right and wrong test," now we have *three courts of last resort*, deciding rationally and according to science. All honor to the distinguished trio, Justices Somerville, Montgomery and Long, with their associates, who have inaugurated the important reformation in the courts which I believe will soon spread over our broad land, which reformation at the present time, I firmly believe, would have been impossible but for the potent advocacy of the Medico-Legal Society of New York, through the exertions of its indefatigable and efficient President, also the editor of its journal.

Wishing you a very happy and profitable time, believe me

Yours sincerely,

T. R. BUCKHAM.

Mr. BELL: I also have a letter from Prof. Reese, of Pennsylvania, in which he says his health will prevent his presence until Friday, the 7th. Letters of sympathy and congratulation were read from Jules Morel, M. D., of Belgium; Norman Kerr, M. D., of London; Prof. Benedict, of Vienna; Dr. Lutaud, of Paris; Dr. Vleminckx, of Brussels; Dr. Cowan, of Holland; Dr. Bettencourt Rodrigues, of Lisbon, Portugal; Sir John C. Allan, of New Brunswick; Daniel Jordan, of Fredicton, N. B.; Dr. Daniel Clark, of Toronto; Dr. Hack Tuke, of London; Dr. Motet, of

Paris; Dr. Magnan, of Paris; Dr. Kowalewsky, of Russia; Dr. Taladriz, of Spain; Dr. La Cassagne, of Lyons; Senator Prof Andrea Verga, of Italy; Prof. Maschka, of Bohemia; J. Wood Renton, of London, and some hundreds of others from various states of the American Union, and from foreign states and countries too numerous to give place here.

Mr. BELL: Mr. Chairman, while the committee is still in session, I wish to say, as you have probably learned from the programme, the conference closes Friday evening with a banquet at the Hotel Marlborough. As it will be necessary to make provisions for the entertainment of the guests, I desire to say that all applications for tickets made to myself or to any of the officials will receive prompt attention. The seats will be reserved for each one in the order in which the tickets are ordered.

The Committee on Permanent Organization made the following report through its chairman:

Mr. LEMONNIER: Mr. Chairman, ladies and gentlemen, I have the honor to report, on behalf of the committee, that we recommend that this Congress now proceed to organize by the election of the following officers, namely, one president, for which office we propose the name of Clark Bell, Esq., and the following vice-presidents: Chief Justice Bermudez, of Louisiana; Prof John J. Reese, of Pennsylvania; Judge Noah Davis, of New York; Dr. W. W. Godding of Washington, D. C.; Dr. C. E. Hughes, of St. Louis, Mo.; Dr. Carl L Horsch, of New Hampshire; David Stuart, Esq., of Maryland. For secretary, Moritz Ellinger, Esq., of New York. For assistant secretaries: Dr. Frank H. Ingram, of New York; Dr. W. J. Lewis, of Connecticut; Mr. J. F. Walters, of Brooklyn, N. Y.

Chairman Hon. ED. F. JONES: You have heard the re-

port of the Committee on Organization, and the names they propose as officers for the ensuing year. What action do you take upon the report?

Motion was made by Dr. I. N. Quimby, which was seconded, that the committee's report be accepted and adopted, and the names proposed be the officers for the following year and until others are chosen in their places. Carried unanimously.

Hon. Ed. F. Jones conducted the president-elect to the chair.

President Clark Bell, on taking the chair, said: I return my thanks, ladies and gentlemen of this Congress, for the honor and distinction conferred upon me. Without further remarks, I would ask of the body its further pleasure?

The programme of the Congress was laid before the body as prepared by the Committee of Arrangements, and approved.

Nothing further remaining to be done at the morning session, the Congress adjourned until half-past two in the afternoon.

Clark Bell,
President.
Moritz Ellinger,
Secretary.

AFTERNOON SESSION, JUNE 4TH.

President CLARK BELL, Esq., in the Chair.

Mr. BELL: I wish to introduce to you a gentleman widely known both in this country and Europe, and who, besides being a representative from the Pennsylvania Hospital for the Insane, is a delegate from the Society of Mental Medicine of Belgium, Dr. John B. Chapin, of Philadelphia. (Applause.)

Dr. JOHN B. CHAPIN: Ladies and gentlemen, I do not know that I have anything to add to the introduction of your President. I received a letter from Dr. Jules Morel, Secretary of the Belgian Society, asking me to be present, and extend its congratulations to this Congress and the associates in this work, and also to express the regret which he and others of the Society feel, that they were unable to attend.

President BELL: Fellows of the Congress, we have now commenced the interesting part of our work, as laid out by the programme—reading the papers contributed to the Congress.

Toxicology forms one of the most important branches of medical jurisprudence. Nothing comes so near the public heart as the work of the chemist. Dr. Beck, when he commenced his career, called public attention to the fact that a man in Europe had been able to determine the existence of poison in the human body (*Orfila*). Brouardel of Paris, recently made an honorary member of the Medico Legal Society, has a great name in toxicology in his country. The late Dr. Swayne Taylor was an eminent chemist, also. And our rolls contain the names of Prof. Reese, of Pennsylvania, Prof. Horsford, of Massachusetts, C. A. Doremus, and Henry Mott, jr. Other distinguished chemists have been connected with this work in

the various countries abroad, such as Prof. Otto, of Germany; Prof. George Dragondorff, of Dorpat, Russia; Dr. Stevenson, of London ; Prof. Vaughan, of Michigan ; Prof. Chittenden, of Yale ; Dr. Miller, of Philadelphia—all on our active or corresponding list of members. But we have in our own country a man who has made a name and fame in chemistry, which has extended not only throughout the Union, but into all lands, an ex-President of the Medico Legal Society.

I have the honor, and esteem it a very great pleasure, to introduce Prof. R. Ogden Doremus, who will favor us with a history of the Marsh test for arsenic, and modifications of the same. (Applause.)

Prof. R. O. DOREMUS then read his paper:

Mr. BELL, Chairman : I have a communication from Harold P. Brown, Esq., announcing his sudden illness, and requesting that his paper, "Electrical Distribution," be deferred to a day later in the session. This paper will be read on Friday afternoon, as also that of J. Murray Mitchell, Esq., on "Legislative Control of Dangerous Electric Currents," and "Electricity and the Death Penalty," by CLARK BELL, Esq.

The paper on "Sources of Error in Micro-Measurements, in medico legal cases," by Dr. Wm. J. Lewis, of Hartford, Conn., was then read by title.

Chairman CLARK BELL: The paper announced for this session by Prof. V. C. Vaughan, of Ann Arbor, Michigan, on "The Medico Legal Points in Case of State of Michigan vs. Matthew Millard," has not yet reached the Chair, and if there is no objection on the part of the Congress, this paper will be read by title, and if it arrives later it will be read at length.

It was ordered that the paper be read by title.

Chairman BELL : The paper by Dr. C. Spadora, of

Italy, has also failed to reach the Chair. He wrote me that he would be here. I have received a second letter from him, but neither contains his paper. I think the same action had better be taken on his paper, as on Dr. Vaughan's, and it will therefore be read by title if there is no objection.

It was so ordered.

Chairman BELL: I think that whatever discussion takes place on Prof. Doremus' paper, should occur before that upon the paper on the Medico Legal History of the Deschamps' case, as the latter, is on an entirely different subject, and will tend to embarrass the discussion.

Dr. WM. J. LEWIS, called by the Chair, said: I really have very little to say in regard to Prof. Doremus' paper, relating to the Marsh test. The tests for arsenic are the most important we have in medical jurisprudence, and are frequently of great service in connection with insurance companies. There are a number of cases on record where bodies have been buried for a term of years, and some where they have only been buried for a few months, and large amounts of insurance money at stake and suspicion aroused, and the bodies exhumed, and by this arsenic test it has been found that a murder had been committed. I know little about it, except that it is one of the most important things we have to deal with in toxicology.

PROF. HENRY F. FORMAD, of Philadelphia:

I am not competent to speak on poisons from a chemist's standpoint, as it is not in my field of labor, though I am in a field where there is a continuous appearance of arsenical poison. I see it every day. The history of poisons, and the microscopic appearance of the tissues under the effect of poisons has been paid attention to somewhat of late in my laboratory. We have men who have made studies of the histological effect of sodide of potash on the system. I do not know, however, whether this has been done about arsenic.

I am deeply interested in the study of the anatomy and micros-

copy of poisonings, viz: in the gross and histological appearances and changes induced by various poisons in the living tissue.

From observations upon a large number of cases—about fifty cases yearly—I was able to demonstrate to my full satisfaction that that there is an absolutely definite and reliable picture in the naked eye appearance, as well as under microscope, of irritant poisonings as manifested in the stomach; the observations were confirmed in every case by chemical analysis

For the present, I venture to make only a few preliminary remarks regarding these investigations.

The changes induced by arsenic in the living mucus membrane of the stomach are very characteristic. The mucus membrane is ecchymosed from minute hemorrhages peculiarly linear and stellate in appearance and definitely distributed along the course of the perivascular spaces within the swollen mucus membrane. I am in the habit of calling it the alligator skin appearance. It is an appearance differing widely from that caused by other irritants and from that met with in the ordinary acute gastritis. Differs distinctly also from that produced by corrosive sublimate, the latter being more limited to the fundus of the stomach near the cardiac end, and more diffusely red. In acute arsenical poisoning, the chief peculiarity is the uniform distribution, all over the stomach, of the mentioned "*mottled, red, aligator skin*" appearance, readily seen by the naked eye,

Some days after death, or out of the body for some time and in prescribing fluids the characteristic arsenical appearance of the stomach vanishes to the naked eye; but under the microscope they can be told easily. The inflammatory changes in the living mucus membrane, and very peculiar they are in arsenical poisoning, are not destroyed even by time, and are quite plain under proper amplification.

One great advantage of these anatomical or microscopical methods of extermination is, that it gives us the means of discriminating between true arsenical poisoning (during life) and the post mortem introduction of arsenic, if made to cover up a crime. This cannot be done by chemical methods. Poisons introduced into a dead body do not induce any histological changes in the tissue, whatever. There may be postmortem imbibition of arsenic, and chemical analysis gives the same result in both. Arsenic may be in the very glass the chemist is using ; it may be in almost anything. In fact, I do not know of any case where a chemist can fail to find arsenic. I only make this suggestion, Mr. President, that the microscope offers a great help to the search for poisons, and that microscopic appearances will prove a great aid to the chemist.

Professor W. M. HUTCHINSON, of Brooklyn, called by

the chair, said: After the exhausting paper by Prof. Doremus there is nothing to say, except that I recommend this method of Marsh's, as being superior to the Russian. I can say this from experience and from the observation of others.

Dr. I. N. QUIMBY, of New Jersey: I would like to say one thing, that the appearances of poison by these minerals are very characteristic. I would like to know the pathological appearance, say after three, four or six weeks. In case of that kind, chemistry, of course, is at a disadvantage. I would like to ask the question: whether a chemist, after a certain period, say a month or six months, has any advantage over the microscopist in this class of investigations?

Chairman BELL: As I understand it, the chemist yields that point at present, but sees in the future progress of his science, that which will be an aid to microscopic examinations.

Professor FORMAD: In case of arsenical poison I have examined bodies exhumed weeks, months and even years after they were buried, and the appearances have been in some cases remarkably good. I would say that we should not be dependent upon the microscopic test, when decomposition has set in.

Mr. CLARK BELL: The question has occurred to me whether there is any method of determining between the arsenic that has been given for the purpose of killing a person, and that which is used after death for the purpose of preservation or, as it is termed, embalming the bodies. This is a very important question, and I am sorry that Prof. Vaughan is not present to discuss it. His paper on the Medico-Legal Points in the case of the State of Michigan vs. Matthew Millard, brings up this question.

Is there any means known to science, by which the

toxicologist is able to discriminate after death, between the poison taken during life, and that used after death for the preservation of the body? In my own experience in the legal profession, I recall a man who undoubtedly poisoned his wife with arsenic, a man who had previviously poisoned two of his other wives by arsenic, who immediately after death brought the undertaker into the house, and went through the process of embalming, by opening the abdominal cavity and filling it with the strongest solution of arsenic, which so permeated and filled the entire body as to perfectly preserve it; and also put it, as he believed, beyond the power of the chemist to discover or discriminate between the arsenic which he had given to his wife before death, and the arsenic with which he had preserved her after death.

That question was submitted, through the Medico-Legal Journal, to the chemists of the world. It is in response to this inquiry that considerable light was thrown on the Michigan case, and I have no doubt we will hear more from it later. I have had communications on the subject from Dr. Miller, of Philadelphia, Prof. Reese, of Pennsylvania, and some of the great chemists of Europe and our country who have considered it, and the general opinion has been, that by all the means known to science at the present moment, they would not be able to discriminate between poison administered before death and poison administered after death in this manner.

We will pass from this subject, however, for the present. We are very fortunate in having with us a gentleman who has traveled from New Orleans to come to this Congress. I have the honor to introduce Dr. Le Monnier, Coroner of the city of New Orleans. (Applause.)

Paper by Dr. Y. R. Le Monnier: "Medico-Legal History of the Deschamp Case; Was it Rape, Insanity or Murder?" was read by the author.

President Bell: It is rather late for discussion upon Dr. Le Monnier's paper this morning, but, if any gentleman wishes to discuss it, the Chair will grant fifteen minutes, limiting the debate to five minutes to each speaker.

If not, a motion to adjourn the afternoon session will be in order. You are all aware that a reception takes place in this hall at eight o'clock this evening. Out of town delegates will please leave their name with the stenographer, that we may make provision for their entertainmeut.

A motion was made to adjourn, which was seconded and carried.

Clark Bell,
President.
M. Ellinger,
Secretary.

Tuesday Evening,
June 4th, 1889, 8 P. M.

THE RECEPTION BY THE MEDICO-LEGAL SOCIETY TO THE DELEGATES.

Steinway Hall was beautifully and tastefully decorated with the shields of the several States of the American Union, embellished with American flags, mingled with the flags of foreign countries.

There was a large and brilliant assembly. The early part of the evening was devoted to music. Mrs. Imogene Brown, the accomplished soprano, sang twice. Miss Veling played upon the piano with great ability and was encored and most heartily applauded.

Herr Nahan Franko led a quartette of stringed instruments, which gave great pleasure.

All these artists were received with enthusiasm and great applause.

An interesting feature of the evening was an exhibition of Edison's wonderful invention, the phonograph, under the manipulation of Dr. J. Mount Bleyer.

After the close of the musical programme, the delegates were introduced to the members, and the evening was spent in social interchange.

MORNING SESSION, JUNE 5TH.

President CLARK BELL in the chair.

President: The session will open with a prayer by Father Thomas J. Ducey.

Invocation to the Trinity, in the name of the Father, and of the Son, and of the Holy Ghost. Amen.

PRAYER.

In Thy name and under Thy guidance, Eternal and Almighty God, the way, the truth and the life, we, Thy children, have gathered together to promote Thy honor, and teach men Thy eternal truths. We ardently desire to prove our love for Thee by the one sure and certain test—the love of humanity. Thou assureth us that man cannot manifest his love for God whom he seeth not, if he loveth not his fellow whom he seeth. In this congress, our object is to elevate and advance, by justice, truth and knowledge, our brothers. The aim, O Lord, of our deliberations is the discovery of truth, and the recognition of the Godhead, for Thee and truth are synonymous, Thou hast taught us, O Lord, that justice is a divine attribute; and, therefore, the science of law unites with that of medicine to formulate adequate rules for the protection of humanity in its multiform afflictions.

Into this union, O Lord, the great compassionate healing art brings its scientific knowledge to the aid of suffering man. This life, a veritable pool of Bethsaida, around which are gathered a large multitude of afflicted ones, whese groans and agonies appeal for relief. This noblest profession of medicine hears the voice of the afflicted and becomes a moving angel, stirs by its knowledge and sacrifice the healing waters of cure and prevention, and therewith soothes afflicted man. At the bed of affliction, in the investigation of the secrets of nature, the physician discovers the truth by the light of which the lawyer acquires his power to maintain the innocence of those wrongfully accused.

How admirable are Thy ways of compassion illustrated by the true physician. Guided by the star of

science and lighted by the lamp of love, he fills the spirit and letter of the law.

Love for humanity and science teaches him everything, and he will endure a thousand fatigues as though they were of no account, and will inquire with the gentleness and solicitude of a mother into everything affecting his patient, and he will never abandon the sick to exposure or neglect. When the physician is not the man of science, and is not directed by love for humanity, when gain be his object, how different the picture!

As a hireling, he will have no care for the sufferer, and his very skill will fail him.

Behold what love and science can effect.

Through Thy power, O Lord, we see how admirable the picture when charity and truth prevaileth, and how lamentable when that spirit is absent from the life of the member of this noble profession.

We pray thee, O God, that thou grant that the great and beneficent profession of medicine may aid the justice-dispensing calling of the law in the amelioration of the sufferings of weak and erring man. Amen.

President Bell: I regret to state that Judge Davis, who was to take the chair this morning, has sent word that he is called to court. I have the honor to introduce as your presiding officer at this morning's session Dr. W. W. Godding, of Washington.

Dr. W. W. Godding took the chair, made a short address of thanks for the honor, and stated that the discussion was to be opened by Dr. Norman Kerr, of London, but regretted that we were not able to meet him; that the President had received his paper which would be read by Mr. Bell.

President Bell: Dr. Kerr is the most illustrious and conspicuous figure on the Continent of Europe on the subject he has selected. I had the pleasure of meeting this distinguished gentleman in his own home, and of visiting the institution he has founded for the care of inebriates in England. I take great pleasure in reading his paper on "*Criminal Responsibility in Narcomania*" in his absence.

Paper was read by Mr. Bell.

The next paper on "*Alcoholic Trance*" was read by Dr. T. D. Crothers, M. D., of Hartford, Conn.

The next paper on "*License Laws*" was read by Carl Horsch, M. D., of Dover, N. H.

The next paper, by Dr. T. L. WRIGHT, of Belfontaine, O., was read by Dr. S. Tucker Clark, entitled "*Drunkenness; Its Influence on Morals,*" in the absence of Dr. Wright, the author.

President BELL: I will make the suggestion that as we have passed through the subjects of alcoholism and inebriety, and the next paper takes up an entirely different subject, that we proceed to the discussion of the prior subjects before passing to the next

The paper on Suicide was laid over until after the discussion upon the subjects of alcohol and inebriety, by consent.

Chairman BELL: I trust that the gentlemen who propose discussing the papers will kindly give me their names, as it is my misfortune not to know personally many of the gentlemen present.

Dr. I. N. QUIMBY. I did not hear Dr. Kerr's paper, and I cannot fully discuss it, but I am glad that we have such advanced thinkers as Dr. Kerr, of London, and Dr. Crothers, of Connecticut. Some may consider the papers of Drs. Kerr and Crothers as speculative, or extravagant, yet, as time advances and investigations are made it, will be found that these savants are correct in their deductions—are living a little in advance of their generation, that we to-day are making mistakes in our treatment of inebriety and the inebriate. We do not punish the insane or the idiot for crimes committed, because mentally defective, yet the *inebriate*, who is *equally defective* through disease for the *time being*, and entirely incapable of self-

control, is convicted, punished or hanged. I think the whole legal and judicial system of this country ought to be reorganized on a more intelligent and higher plane of Christian civilization, more in harmony with the recent investigations of science. Our present treatment and punishment of the inebriate represents the era in which "an eye for an eye, a tooth for a tooth," was the rule and two wrongs made a right; the cold application of the letter of the law while the spirit of humanity and justice was disregarded. This is not in accord with the advances of the nineteenth century. (Applause.)

It is an outrage that society is so organized that instead of putting out of reach the principal cause of crime, it rather permits and protects it. (Applause.) After teaching them, thousands of our fellow citizens, to become inebriates, and leading them into criminal paths, we punish them for the very things we have taught them. Does not the State by license law enable her agents (the saloon keepers) to establish themselves in every city, town and hamlet, through which means intemperance is encouraged and promoted, thus becoming *particeps criminis* in drunkenness and its consequences, by those who have lost their self-control? I hold, Mr. President, that it is contrary to the civilization of the nineteenth century that such proceedings should be tolerated, and I never go before a court and see a criminal tried who has committed a crime in a state of inebriety but that I feel that the State should be punished, whenever a drunken murderer is convicted. I feel sometimes that the State and the jury should be punished rather than the inebriate who committed the offence.

It is the first duty of Government to protect society, therefore Government should do all in its power to

stop the manufacturing of inebrates by stopping the sale of alcohol as a beverage.

The establishment of saloons all over this great land of ours, is antagonistic to the genius and spirit of our government. This great country was established upon the broad principle of the greatest good to the greatest number, and we should never forget the fact that the saloons are nothing but pit-falls in which the weak and the thoughtless are entrapped, and we must remember the further fact that we *are* our brothers' keepers.

Mr. President, this is a subject worthy of thought, and should not be lightly passed. I am sorry that so many speak in reference to the matter, without having taken pains to investigate it. I am sorry that the lawyers and judges, mechanically, as it were, apply the law in following strictly its letter, and that they cannot dispel the illusion that the inebriate is a person who merits the same application of the law as the criminal not addicted to intoxicants. They apply the law, but they forget the true spirit and intent of justice.

In regard to the subject of brain-lesion, I fully agree with Dr. Crothers that it is very difficult to find. I have during an experience of thirty years made many *post mortem* examinations, and have often tried, by the closest inspection, to locate the lesion, but often failed. This peculiarity is well stated by Dr. Crothers in the case of the horse thief. The explosive impulse to steal seemed to be second nature to the man. He was the offspring of drunken parents, yet the grand jury which tried him paid no attention to his previous history or condition, and he was barbarously and unmercifully hanged. But it is said that such men are dangerous to society, and if they commit crime they must be punished—if murder, they must be hanged. There is something in this that

needs answering, but I hold that this class of persons should not be dealt with as was the horse thief. As long as society willingly promotes drunkenness, by and through its license laws, the State should make some provision other than the prison, the jail and the almshouse, to take care of its wards, by enacting laws and establishing inebriate asylums, through and by which the inebriate could be arrested, confined and *treated* for his disease. (Applause.)

That is all I have to say, except that I believe most heartily that this paralysis which takes place in the mind is as certain and as sure as that any narcotic can paralyze any organized time. We can just as easily destroy the faculty of man by alcohol as we can put him to sleep with an anæsthetic. Now, that being so, what is the use of denying the fact that a man is a mere automaton, and is not responsible for the crime he commits, while under the influence of alcohol?

I hope that these papers and the principles they enunciate, will be read and discussed throughout the civilized world, as they are of great importance to mankind. I think if this Congress has done nothing else but bring out these two papers, it has good cause for assembling.

Dr. W. L. Tuttle: I have just a few thoughts that I wish to present. I did not hear the first paper, but the last two and part of the one that refers to the horse thief. We had portrayed in the last paper very clearly the effects of alcohol on the human brain and system. That was a well written paper, and, I should think, absolutely correct. As regards the paper immediately before that by Dr. Horsch I do not disagree with the gentleman in toto, but I come so near it, that I will just say what I have to say without answering it *seriatim*.

In the first place, we are not in Germany. (Applause.) We have Irishmen here and those of other lands who are not quite as gentle and easy going, who cannot take their liquor coming from church and go home and be very comfortable with their families. We do not live in a country where people do that way. When they drink whiskey, and beer and porter, and those things to any great extent they do desperate things.

A license law that could be properly restricting, would be a very good thing, but we want to come to a point where we can make men responsible for their acts. If a liquor dealer sells a poison to a poisoned man, with a poisoned brain, and the man kills his wife or friend, let the dealer who sold it hang. (Applause.) We want no irrational laws revived, but we want the men who are licensed made responsible for the actions of the persons to whom they sell their poison. Let it be opium, let it be strychnine, or let it be liquor; whatever it be, let those who sell it be responsible for the action of their customers. If a man sells liquor to a drunkard, and he beats his wife, let the liquor dealer be made responsible for that.

I think we should get down to the bottom, and correct the popular sentiment. Let the people feel that the person who deals in this poison is really the one who should be responsible. When we have done this the abuse will be largely a thing of the past.

CHAIRMAN—Ladies and Gentlemen: It gives me great pleasure to present Father Ducey.

FATHER DUCEY—*Mr. Chairman, Ladies and Gentlemen:* Accept my sincere thanks for the benefits you have conferred on me to-day. It is an honor and a great privilege to be taken into your councils and to have the opportunity of hearing your humane and wise produc-

tions in the interest of man's advancement and protection. We, the ministers of religion, are received as the accepted instructors of humanity. We are supreme in our sway while in the pulpit, and there is no one to dispute or question our interpretation of truth and duty.

To day, in this assembly, gathered in the interest of humanity, I have listened to truths breathing the highest religious life, and manifesting the sincerest love for God and one's neighbor. Your sermons have been able, scientific and humane. I could not question them if I would, and I know they must be productive of great good. (Applause.) I feel assured that no one can go forth from this Congress not strengthened and instructed to more wisely and humanely preach by word and deed truths of God and the love of humanity. (Applause.) It occurred to me while listening to the various papers read and the discussions which followed, that you are earnest laborers in the cause of God and truth. Men may differ in the acceptance of certain religious tenets, but they have a common basic principle of religious belief and moral direction. The Christian professes to believe in one God, a supreme and divine presence. The Christian belief is contained in the Apostle's creed, and the moral code in the ten commandments. The large Christian spirit of our day as your deliberations show, demand from the Christian believer and Christian teacher a broad and practical sympathy with humanity's woes and humanity's growth. We must teach the truth and live the truth, and make the rich and mighty feel their obligation and responsibility to their less favored brothers. The ministers of religion must not be the hirelings of wealth and power ; it is their obligation to fearlessly point out to them their duty. This congress, in which religion, medicine and law have assembled to form a

trinity of action, for the preservation of morality and the perpetuity of truth, is worthy of admiration and recognition from angels and men.

You are doing a noble work. You are illustrating the two great commandments of the law—the love of God and that which is inseparable from His love ; the love of our neighbor. You show that you wish to see God's kingdom come on earth and His will to be done. You wish to teach man by science and religion that it is not God's will to have ignorance, poverty and vice reign on earth, to the confusion and destruction of humanity. Truly, yours is a noble work. Go on in triumph. God must bless you, and men should support you. I thank God for the privilege of being here and listening to you to-day, and I can go forth to duty encouraged by your words and strengthened by your example.

CHAIRMAN : Twelve o'clock has arrived, and we have another paper to read, and I would therefore suggest that speakers be limited to five minutes each. It is important that all sides be heard, and the subject is still open for discussion.

Mr. W. A. BARNES : I would like to request Mrs. Julia Thomas, who has given a thought to this subject, to say something to this Congress.

CHAIRMAN : I think I may say, in behalf of this Congress, that the ladies have the floor.

MRS. JULIA THOMAS.

Mr. President and Members of the Medico-Legal Jurisprudence Congress : It is an unexpected honor to be invited to speak before this learned body, and while appreciating your courtesy, regret my inability to add anything of importance to the discussion.

I have been a most attentive listener to the papers

presented this morning, particularly to the sound and practical reasoning of Dr. Norman Kerr. Having read his articles on the treatment of Inebriety, and his Report of the Investigating Committee appointed by the London Societies to ascertain the effect of Temperance, Total Abstinence, Habitual and Moderate Drinking upon Longevity, and the effect of alcohol upon all diseases, and the moral and mental, as well as physical effect upon the subject, also the recommendations for treatment of patients suffering from inebriety.

I deem it a matter of congratulation to the cause of civilization that the International Medico-Legal Congress—this concentration of mind and thought—representing the greatest power on the face of the Earth—recognizes the fact that a DRUNKARD is an INSANE MAN, prone to do the deeds of insanity, as dangerous to the community, and that he should be subjected to the same treatment as the insane. First of all to *protection*, 1, from *himself;* 2, from the *rumsellers*, who are so devoid of *honor* and *principle*, and *decency* that they will continue to sell drink after drink to the poor crazed creature so long as he has a penny with which to enrich their greedy coffers. So demoralizing is this insanity-breeding traffic. Protection also for those who are exposed to the insane inebriate's brutality, and further that this body recognizes the still more important fact that the inebriate is not alone responsible for the crimes committed while laboring under temporary insanity—the *cause of which* our government *legalizes* when it licenses the sale of *poison* which intoxicates and makes *mad*. (Applause.)

But, I would go further than the speaker who says that the liquor seller should be held responsible with the criminal whom he has made drunk, I make the Board of Excisemen equally responsible.

The first duty of the State is to PROTECT its CITIZENS, not to destroy them. Then why should the cloak of "*Protection-by-law*" be thrown around the rumseller, the Excisemen and the law-makers, while the insane inebriate, whose will and moral strength has been *mastered* by a most *terrible disease*, which has been *nurtured by the government*—the result of this "protection by the law." Why, I ask, should he suffer the full penalty of the law, and those who are abettors allowed to escape punishment? Is it just? Is it humane?

The speaker from New Hampshire (Mr. Horsch) thinks we should enforce the law preventing minors from becoming drunkards. Truly, it would be a grand thing for future generations if *drunkards only* could obtain liquor, especially so, if we can have them treated as insane, and at the same time hold the rumseller responsible. We should then quickly rid the earth of the great army of insane inebriates who, as we are shown by statistics, die at the rate of 100,000 annually in America!

This army would soon become extinct were it not for the recruits from our young men and minors and *moderate drinkers*. The question of inheritance which enters so largely into the discussion, seems to have been most generally ill comprehended by our sanitarians, lawmakers, doctors and philanthropists. According to good authority *other diseases* than alcoholic intemperance in the parents may beget in the offspring an abnormal condition or appetite which will lead to inebriacy, and alcoholic intemperance may beget *other diseases* in the offspring than inebriacy. It is a fact, as it has been stated, that the greatest cause of nervousness, besides many other diseases in men, women and children, is traceable directly or indirectly, to the alcoholic and nicotine poison entailed upon offspring by intemperate parents, and

those who make a continual use (though not to intoxication although under constant effect) of these stimulants or poison. If this is true, then is it indeed time for medical and legal men to sound the trumpet note of warning.

I should be glad to see alcohol placed in the right category, classed with other poisons, and I accord with the sentiment that he who sells it should be treated as the druggist—made responsible for its sale. Gentlemen, when you have educated public sentiment to this standard, you will have justly restricted the greatest cause of crime and vice and suffering and rendered the greatest benefit to philanthropy, humanity and good government. (Applause.)

Willis A. Barnes: Among the very important questions which have been and will be presented to this Congress, I think there can hardly be a more important one than this: Does the law of inheritance include inebriety? It may interest the Congress if I present a case. I had a friend who became a periodical drunkard. He was a man of high intellectual ability, with a most perfect physique and health. He married, at twenty-one, a lady of high moral and intellectual character. Their first child, a male, was conceived and born under the most acceptable moral conditions. Later, when under the influence of a long alcoholic debauch, another child was brought into being, a female. These children grew to manhood and womanhood; the boy an honor to his family, his college and to society. The girl, on the contrary, developed methomania, with strong tendency to nymphomania. Does this not prove that alcoholic mania is inherited?

MRS. M. LOUISE THOMAS.

Mr. President—The moral phase of intemperance is one of absorbing importance to the world and to the individual, but it is not the moral aspect of the subject we are called upon to discuss to-day. The Medico-Legal Society was created to look boldly, fearlessly, searchingly into every form of evil which the two schools of science can ever by any possibility be called to treat. We must not be afraid to hear both sides of any question, and in doing so to keep our minds absolutely free from mere prejudice and intolerance.

To my mind the paper from the gentleman from New Hampshire is full of important statistics and impressive statements. While I should not perhaps agree with him in the value of the beer industry, his views are doubtless those of a very large body of our good citizens, and as such are worthy of a respectful hearing.

The gentleman from New Jersey evidently does not think so. It seems to me that he would aim to gag free speech and stifle scientific research under the cover of temperance zeal. Surely this is not wise in a scientific body like ours, and is to be regretted.

One speaker begs to remind the gentleman from New Hampshire that we are not in Germany! That is very true. We are not in Germany, but we are in the United States of America, and the very name stands before the world as a synonym of many nations in one--a union of all the people of the earth, to all of whom are pledged personal liberty and freedom of speech.

The medical and the legal lights of this Congress will not be afraid to defend these Constitutional rights in dealing with any question before it.

It is true that we are not in Germany, but it is also true that we are in the third largest German city in the

world, for there are but two cities in Germany having a larger German population than we have Germans in New York. That they are an industrious, honest, useful class of citizens no fair-minded man will deny, and that they compare well with other classes of the community, our late Centennial illustrated most distinctly. Therefore we will give them a respectful hearing even when we do not quite agree with them. We will give impartial hearing to all questions that come up, and we will not turn our Congress into a mere temperance society. (Applause.)

The Medico-Legal Society seeks to reform the evils in the world in a scientific manner. Ridicule is not argument.

All the papers read to us this morning have been full of patient thought and study. That by Dr. Crothers is a marvel of wise and suggestive observation. Out of his wide experience he tells us that the diseased, nervous condition of the drunkard clearly shows that he must not be held responsible for his actions. How wonderfully he traces the progress of the disease, the fever creeping through the veins, the deadening of the nerves, the weakening of the tissues, the gradual loss of will power, and the going out of the light of reason! There is not even a touch of sentimentality in his method of treating the grim subject, and yet how frightfully graphic it all becomes in his hands, with that ray of light behind and around it which comes with the hope that any question fully understood may be within the line of cure.

Gentlemen and ladies, the unfolding of thoughtful papers like these gives to us the strongest possible hope that the enormous evils of drunkenness will be solved so soon as the public mind takes cognizance of the dangers

of a free use of intoxicants. A full knowledge of these consequences would be worth ten thousand license laws whether high, low or prohibitory; for the reason that that which is grounded in the intelligence of the people needs no restraint.

Let us teach the children, and the fountain of vice would soon be sapped and turn dry. The growth of human life is upward toward the light, and the things we have most to fear for it is ignorance, stupidity and unbridled appetite. If drunkenness is a disease, and insanity its offspring, we will by the divine right and power vested in the Medico-Legal research, find the place where it lurks, heal its victims and purge the world from its direful effects by beginning at the source and educating the children until the whole nation shall be redeemed.

CLARK BELL, ESQ.: Mr. Chairman :—The question Dr. Kerr raises as to whether inebriety is to be considered as a disease, is one of great importance, and I am glad to see it is being so thoroughly discussed in England at the present time. It is claimed that drunkards, who are confirmed inebriates, are not responsible for their actions in certain cases, and this has been held in some of our courts, and has been breathed into the spirit of the New York Code, and judges are looking into that sentiment which inspired Dr. Kerr, but which has not yet been fully recognized or considered as the law by the judges. It is an admirable paper, and I am glad to have it presented.

I am particularly pleased with the paper by Dr. Wright. Dr. Wright makes allusion to my views quoted from the Medical Jurisprudence Inebriety, but I think it is proper for me to say that those views were prepared in a paper for the Medico-Legal Society, and printed in the volume from which that gentleman

quotes. I cited what I believe to be the present existing laws of this country and of England upon this subject, without any comment, pro or con, and the article which he quotes is a statement of what I deemed to be the law, and not an expression of what should be the law. The law assumes that when a person knowingly and of his own accord puts himself into a condition where he knows he cannot control his actions, he is to be held responsible for his actions while in that state. But we are now beginning to look at the question in another light, and the judiciary and the legislatures are slowly recognizing the fact that there is such a disease as inebriety; that it is an absolute disease; that it affects the brain, frequently dominating the will, and must be treated as insanity is treated.

PRESIDENT BELL, resuming the Chair: I would like to ask Dr. Godding to say a word on this subject before he leaves us, as he is obliged to vacate the chair to meet an important engagement.

DR. W. W. GODDING.

I have not thought of saying a word on this subject. I have been instructed beyond my expectations in the several papers that have been submitted. I want to say, as a practical expert in insanity, to which I have given thirty years of my life, and it has been my misfortune in that time to study a great many cases, that I can only partly agree with what the professor says in regard to the alcoholic trance. I have no question that many crimes are committed in a state of entire stupor, but I have seen the opposite illustrated over and over again. I have seen inebriates perform actions—not automatically, as the doctor suggests, but with a full knowledge of what they are doing—and in a few days

afterwards, they would not have the slightest recollection of what they had been doing. But what I rose for was, perhaps, to speak outside of the papers.

What are we going to do on this subject? For that seems to be the practical question, which I hope this Congress will reach. In Washington there is no law against drunkenness. Drunkenness is not a crime, is not an offense under the laws of Washington. We propose to have a law there which shall pronounce the inebriate incapable of caring for himself, and give us authority to place him under guardianship, and establish there a national institution, so far as the District of Columbia is concerned, where these people can be sent as persons needing care, and where they can be detained against their will, which heretofore has been the main obstacle in the most of these inebriate asylums. Labor can also be made compulsory, and we propose to put the institution under the care of some great physician, and make there a large national institution, which, I hope, will be a national success.

Dr. CARL H. HORSCH: To the opponents of this proposed law for the regulation and right use of alcohol and its beverages and the prevention of abuse, I wish to say that I thank one of them for the acknowledgment of the good mental conditions of my countrymen, and I hope that the other honored member will follow the example of the "cool-headed, easy going Germans," especially in a discussion, and an effort for a more effectual law to prevent drunkenness. May he also consider that rant, repetitions and wasting the allotted time from other members manifest mental inebriety and selfishness.

President GODDING: The discussions on these interesting papers would last for a half day, but it is getting so

late that we will be compelled to proceed to the next paper, which is on suicide, by Wm. Lane O'Neill, Esq., of New York.

The paper was read by the author.

Discussion on this paper was postponed, by reason of the lateness of the hour, and morning session adjourned.

Clark Bell,
President.

M. Ellinger.
Secretary.

AFTERNOON SESSION, JUNE 5th.

President Clark Bell in the chair: I have received word from Judge H. M. Somerville, of the Supreme Court of Alabama, that judicial duties prevent his attending the Congress. His paper on "*The Legal Responsibility of the Criminal Insane*," was read by title.

The "*True Legal Test of Responsibility of the Insane*," by Judge M. W. Montgomery, of the Supreme Court of Washington, is the next paper. He wrote me yesterday that he could not leave Washington. His paper may now be read by title, and if he comes it can be read later in the session.

The paper on "*Feigned Insanity*," by Connolly Norman, M. D., of Ireland, was read by title.

The Chair: The paper on "*Eccentricities of Insanity*," by Ex-Judge Noah Davis, of New York City, whom I have the pleasure of introducing.

Ex-Judge Noah Davis: The paper I am about to read is merely a narrative of an incident that occurred to me in my judicial life. I thought it might be worth preserving, in consideration of the interest taken in the question of insanity as connected with crime, and yet it is nothing more or less than a simple statement of an

actual occurrence in a tribunal over which I had the honor to preside.

The paper was read by Judge Davis.

President BELL then called Ex-Judge Noah Davis to the chair for the afternoon session.

Judge Davis returned thanks for the honor, and took the chair.

Judge DAVIS, Chairman: The next paper on the order is "*Volitional Insanity*," by AUSTIN ABBOTT, Esq., of New York City.

President BELL: I received a note from Mr. Abbott this morning, saying that his engagements were such that he would be unable to get here, but he has sent up his paper, which I will now read at his request.

Mr. Abbott's paper was read by Mr. Bell.

The paper on "*The Disposition to be made of Criminal Lunatics*," was read by Dr. W. W GODDING, of Washington.

Dr. SAMUEL WESLEY SMITH, State Commissioner in Lunacy in New York, read a paper on "The Criminal Insane."

CHAIRMAN DAVIS: The paper on "Change of Character a Legal Criterion in Insanity," was expected to be read by Dr. C. H. Hughes, of St. Louis. He has been unable to get here—detained by illness in his family—and has written a letter, which the Secretary, Mr. Ellinger, will please read. Mr. Ellinger, read the following letters:

ST. LOUIS, June 1st, 1889.

Clark Bell, Esq.:

It may be possible that I shall not reach your city in time for the Congress.

In anticipation of such a possible contingency, I send you the accompanying letter, which you may use as you may see fit. My sympathy and best efforts are with you. You are making a grand move for science applied to humanity and law. Yours truly,

C. H. HUGHES.

St. Louis, May 31st, 1889.

Clark Bell, Esq., President International Congress Medical Jurisprudence, New York:

My dear Sir: The Congress about to convene and over which you are to preside, is a subject in which I am much interested. It will mark an important epoch in the scientific progress of our country.

No philanthropist or advanced scientist ought to be indifferent to the foundation and growth of medico-legal matters or congresses of medical jurisprudence. Like the organized State charities, their development measures the civilization of the people. The world's true progress is guaged by its philanthropy, and the welfare of man is the ultimate aim of all scientific endeavor.

Societies like yours utilize the results of medical research, and bestow them on the people. Medico-legal societies are the mints where the crude metal of abstract scientific truth is carried into standard value. Medico-Legal Science searches out the relation of chemistry, physiology, pathology and clinatology, and even of vaccinology to human conduct, and practically applies them. It studies the chemistry and physiopathology of the lunatic's and inebriate's brain, and that of the narcomaniac in general; it searches into the phenomena of sleep—normal and morbid—and seeks to find their exact influence over man's acts and thoughts in a wakeful state. Narcology, sonambulism and hypnotism, as well as hysteria, epilepsia and aphasia are within the legitimate scope of its researches.

To Medico-Legal Science there is a toxicology of the mind, through organic dianthesis, heredity or transmitted or acquired toxhaemia, as well as of the stomach. The one extenuates—the other finds out—crime.

In short, the medico-jurist searches out the intricate relationship between human organism and conduct, and endeavors to find out accurately, for man's welfare—individually and collectively—what and how much of human conduct is purely and solely the result of uncommon organic impression, and what springs from the ordinarily untrammeled and uncoerced human will, and as such its field is as broad as the whole domain of human conduct, its area as great as that of all the sciences, and even of the arts, for what a man does, as well as what he is made of, and how he is organized, influences his conduct and contributes to his character, as one capable or incapable of conforming to the requirements of human statutes.

With these views of the greatness of your work and the grandeur of your mission, it is natural that I should hail with pleasure so significant an event as the important congress about to convene in your city—a meeting destined to bring so much real benefit to present and future questions. Yours very truly,

C. H. Hughes.

Chairman DAVIS: The next paper, by Clark Bell, Esq., on "Separate Hospitals for Insane Convicts," was then read.

Chairman: This closes the reading of papers for this session. The programme provides for a discussion of these papers, which was to be opened by Dr. Hughes, of St. Louis. He, as you know, is unable to reach this city, by reason of the illness of his daughter. The discussion will, therefore, be opened by Dr. Godding, of Washington, D. C.

DR. W. W. GODDING.

Mr. President, Ladies and Gentlemen: I did not intend to discuss this question, further than to answer any questions that may be raised in regard to the subject upon which I have spoken.

Under the law of 1882, the Attorney-General of the United States has power to send to the Government Hospital all the insane convicts or insane persons accused of crime under the United States Law; that is, the law governing the United States, in distinction from State laws, recognizing, of course, the State rights of every State. That law was passed without any provision for separating the convicts from the insane criminals. The Board of Directors of the Government Hospital, some two years ago, secured a small appropriation of fifty thousand dollars, with which we erected the Howard Hall, to which I have already alluded in the paper that I read. This is set apart for the homicidal and dangerous classes of insane. As I said before, it was our plan—and I regret I did not bring the plans down to show you—to have this building in the form of a long rectangle, or two rectangles joined in a hollow square, which would give two hospitals with a common enclosure, thus eliminating the trouble so eloquently de-

scribed by your Commissioner in Lunacy, in regard to the great wrong of confining the convict with the criminal insane. I do not believe public sentiment justifies us in putting these two classes together.

Now, as regards the national government making provision for the insane of all the States, I am aware that we have fought out the question of State rights, but I must confess I have such respect for those State rights, that I cannot sympathize with these theories of gathering together the convicts of the different States under one government. It seems to me this would be a mistake, even if it could be done. If it was a child of mine that was so unfortunately placed, I would certainly desire to keep him in my own State. If the State is too small—like New Hampshire—so as not to require separate hospitals for criminal insane, a large house could be rented for the purpose, but no State is so poor that it cannot or should not support its unfortunate insane. (Applause.) Every State in the Union has its hospitals overcrowded, and such distinct building is needed for additional accommodation for its criminal insane.

The best step, it seems to me, would be to make separate and distinct provisions for the convicts and criminals, still under the same law, and under the same superintendent. It seems to me that we commit an outrage in confining convicts—those, I mean, whose lives have been steeped in crime—with our insane but innocent brothers or sisters, where they will so easily develope into the lowest kind of criminals. That, we know, is all wrong.

But I said I had no intention of making a speech. Thus far there has been nothing said, and I am asked to open the discussion. I do think, however, that this is one of the vital points in the care of the insane, and I

hope to hear suggestions from others interested in this subject, and from those outside my profession. Medical experts are only too ready to go out like David to meet Goliah on the question of insanity. I hope to meet some of our legal friends, who will give us the other side of the question, and I do not know of anybody here better able to do so than Judge Davis. (Applause.)

Dr. R. L. Parsons: I have listened to a part of the papers on the disposition to be made of the convict insane, with interest, but have little to add save in the way of emphasizing what has already been so well expressed, especially by Dr. Godding in his remarks.

There are various classes of insane persons which should not be closely associated with the quiet, well-behaved and orderly insane; such as make up the great mass of insane patients who are under care and treatment at our asylums. Among these may be mentioned those patients whose appearance or habits would render them disagreeable to others; those who are so excitable and noisy as to be causes of irritation and discomfort; those who by reason of their insanity have committed acts which would have rendered them criminals if they had not been insane; those whose previous associations, habits, propensities and reputation clearly mark them as belonging to the criminal class, although they may never have been convicted of crime: and those who have become insane after having been convicted of crime and while under sentence for the same.

Now, the latter of these only, are the convict insane for whom special provision is made in some of the states and for whom separate asylums have been asked as a matter of principle; the reason advanced being that the innocent insane ought not to be placed in immediate association with convicts. It will hardly be disputed that

insane convicts ought to be cared for by themselves, both on account of their feelings by other patients and of their friends. But it should not be forgotten, in deciding what special provision should be made for the convict insane, especially in the smaller states where there are but few of them, that they also are of different grades and that many of them are much higher in the social and moral scale than many of those who have never been convicted of crime ; and on the other hand, that there are patients in almost every large asylum for the insane, not under conviction for crime, who are quite as culpable and quite as unfit for association with respectable people as many of the convict insane.

From this view of the case, then, it would seem that no injustice would be done, nor injury caused, if special provision were made for the convict insane in connection with ordinary state asylums. Dr. Godding had just informed us of what he has done at Washington for the convict insane who come under his care ; and how this method has worked without injury or prejudice to any. This particularly objectionable class is separated from other patients much in the same way in which other objectionable patients are separated from their fellows ; only the separation is made on different lines and is more strict in character, both to prevent the escape of the convict and in deference to the feelings of other patients. I am decidedly of the opinion that the method adopted by Dr. Godding is advisable for all states whose insane convicts are so few in number as not to warrant the support of a separate asylum for their detention, care and treatment.

Professor Simeon Tucker Clark : I think the discussion of this question in all its phases will be of advantage to us. The whole question summed up is, how shall

we take care of the two classes of insane, the violent and the more passive? "Birds of a feather flock together," is an old adage, and classes which approximate to each other in purity of mind or in speech should not be associated with those whose moral ideas are greatly different; but beyond that it is simply sentiment that any great distinction should be made between them. I would not allow those persons who are liable by their words or acts to contaminate those who are better or of a higher order of morals than themselves, the opportunity to do so. This is certainly a wrong which is being constantly perpetrated upon this unfortunate class of people. It is impossible to do too much for the insane, and every act on the part of the State or of any individual that tends to the amelioration of the condition of these unfortunates is certainly a praiseworthy one.

MATTHEW D. FIELD, M. D.

Mr. President, Ladies and Gentlemen: The points have been so fully discussed by the gentlemen who have preceded me that I do not see that there is anything for me to say upon the subject. I am in hearty accord with all that has been said.

I simply wish to say, in the beginning, that it is impossible to draw any lines as to the course to pursue in caring for the insane, excepting the one grand law of studying all that will benefit them. In my experience in the care of the insane I have often found those usually quiet and tractable suddenly break out and become very violent, and this has occurred so often that I think it is impossible to decide in that way which are the vicious. But, on the other hand, we cannot separate the violent indiscriminately from the rest, as we want to avoid placing those who have been innocent during the

sane portion of their lives with such as have led immoral lives.

I am very glad to hear the distinction which has been made here of the criminal insane; those who lead criminal lives before they become insane, for we can by no law of true justice consider a person guilty who, while insane, commits criminal acts.

I must take exception to what the gentleman said in regard to "birds of a feather flock together," in the case of the insane: "Evil communications corrupt good manners," and disguise the facts as you will, the innocent insane are demoralized by association with those whose minds are foul. This is clearly true of the insane and, I believe, the two classes should be kept separate.

Chairman Judge NOAH DAVIS: I see in the audience a lady, whom I know takes a great interest in this subject, and I venture to ask Mrs. Thomas to say a few words.

MRS. M. LOUISE THOMAS.

Mr. President: The papers presented have been full of important matter and suggestive interest, but there are two or three points which seem to me to be either wholly untouched, or not fully covered in the discussion, to which I would like to call your attention.

The first is the fact stated by Judge Davis, that a man or woman may pretend to be insane for the purpose of escaping the just penalty of crimes committed, may for months carry on this deception, and may during this time be made the companion of the virtuous insane in the asylums. This is palpably a cruel and unjust infliction upon innocent patients, and upon their friends outside, who have a right to expect and demand all whole-

some and healing influences for and around the truly insane.

Beside these, there is still another class, that are wrongly represented to be insane, by persons whose interest it is to get them out of the way; and the law, as at present constituted, affords no adequate protection against such attempts. For the sake of the argument, I will not say that this is of very frequent occurrence, but every thoughtful person will recall some instances of the kind, and I claim that the law should so shield the individual, that these things should be impossible.

How to detect insanity then, is thus shown to be a matter that is far from being understood; how to cure insanity, is, in the present stage of medical science, quite as much misunderstood; and how to prevent insanity, and the conditions leading to it,—which is also one of the subjects as yet untouched—I hold to be the most delicate and important of all.

I come before the meeting, not merely as a member of the Medico-Legal Society, but also as a delegate from the Society to Promote the Welfare of the Insane of New York,—a band of men and women who have this subject very much at heart, and who stand pledged to watch, guard and protect, by every just means within their power, the highest and best interests of the most helpless and most unfortunate of all human sufferers,—the insane.

The exhaustive and valuable paper by Dr. Samuel Wesley Smith, corroborates and emphasizes the statement already referred to,—that criminals often hide from justice in the asylums, thus degrading them to the level of penitentiaries, and placing the honorable superintendents in the ignoble position of keepers of criminals, instead of that most sacred of trusts, the care-takers of

the mentally diseased. To this I object, and I ask that sharp lines shall be drawn between the criminal classes and the irresponsible insane, for the purity of the asylums and the just defense of both the patients and the officers in charge of them.

For this purpose, we need a class of physicians specially trained in the schools before entering upon the work, able to detect unmistakably the difference between the true and the false insanity,—what it is, and what it is not—this malady which comes so mysteriously, and about which the average well-instructed physician knows so little.

Ladies and gentlemen, this is a most important question, and I beg your thoughtful attention. Shall we place our sick ones,—and most fearfully ill they are,—ten thousand times worse than death itself,—shall we place them in the hands of physicians wholly unprepared to treat them as a class? In almost every other line of human suffering, the medical schools recognize the need of special training of physicians. Let us not permit insanity to be an exception.

Another thing is the proper care of the insane in the asylums. They are shut up worse than alone, and too often without sympathetic attendance, and who can tell when the cure comes? They should be carefully watched, and promptly released the first hour that the cure appears, else that which in the beginning was transient and curable, will surely become hopeless and incurable.

A case in point comes before me. It is that of a lovely lady, who seemed to become insane by reason of great affliction and sorrow. The husband was injured mentally in the war of the rebellion, and for four years he did not know his own name. Finally he died, and with

the long-continued trouble, went their large estate. Is it any wonder that the wife broke down, and that there came a time when she raved violently for weeks? The doctors,—intelligent and trustworthy men—all finally declared her to be insane, and directed her to be placed in an asylum, which was done. That she was insane at the time, no one who saw her doubted.

Four days afterward, a young physician who knew her well and loved her, called to see her at the asylum, and had a long talk with her, and when he came away he declared her to be perfectly rational, and persevered until she was removed to a quiet home, the whole time of her treatment in the asylum being just ten days. She lived many years afterward, and never had any return of the symptoms.

Now, suppose this lady had not been so watched and cared for by friends? Suppose the young physician had not been so brave and positive in declaring an opinion directly adverse to the physicians in charge? Or suppose those others had not been thoughtful and honorable gentlemen? Do you not see that they might have prevented her removal just at that time, in which event, she would probably very soon have become insane, by contact with other patients. It is a question whether her case was anything more than one of hysterics, brought on by heavy sorrow.

I ask the members of the Medico-Legal Society, my comrades, why there should not be women physicians to look after the female insane? It is a reasonable request, that they shall be attended exclusively by their own sex in the asylums, and that there shall be a fair proportion of women on the State Board of Commissions. In the State of Maine, where the whole ground has been gone over, and all these things have been con-

sidered, and in several other of the States, there are at least two women on the Board of Commissions, and I ask that New York shall not only stand side by side with these States, but that she shall stand foremost in all wise reforms.

In Maine, it is the duty of one of the women officers to visit the asylums at least once a week, and to see that every patient is provided with pen, paper, ink, and postage stamps, and a letter box is placed in the wards, and each patient is permitted to write to whom she pleases, as she pleases, and as often as she pleases, and it is dropped into the United States Post Office, and no one may read it, thus securing to each that constitutional right which belongs to every individual in the United States.

What if they do write nonsense? Plenty of sane people do that. If there is to be a censorship of the mails, let it begin outside of the insane asylums!

Some superintendents claim that friends do not wish to receive letters, and forbid them to be sent. It is their duty to hear; they may destroy the letters sent to themselves, but they have no legal right to interfere with their passage through the mails. Suppose they do contain complaints against the management of the hospitals? If true, they should be told; and if false, the truth will stand investigation. There is nothing to fear. There are those looking on who can judge fairly whether it is true or false. Such complaints as these are the staple of conversation in every hotel and boarding-house in the land. If there is to be a reform, do not let it begin alone in the insane asylums.

A lady friend of mine residing in New York had the misfortune to spend two years as a patient in an asylum. She has told me many scenes in her experience, one of

which in particular lives in my mind, and gives me a quick pain, as I am sure it will to you, when I tell it.

It is the rule in that asylum for all the patients to be led to work at stated hours each day—willingly if they will, forcibly if they must. One morning, the keepers,—all men, and far from gentle—were conducting a group of women who did not want to go One especially refused to go. She was near middle age, had been brought up in a happy home apart from the laboring classes, was herself a mother weeping for her children, and her soul rebelled against the brutal commands of the coarse man keeper. Finally she rushed into the sitting-room, and throwing herself on her knees, buried her face in the lap of my friend, and cried: "Don't let them treat me so. Oh, save me, save me!" The keeper took her roughly by the arm, and said: "You must get up, and go to your work. You are not sick; all that ails you is laziness." She raised her face, streaming with tears, and cried; "I am not lazy. God knows I never was lazy; but I am sick, and I am thinking of my children at home. O, Father, I want my children!" At which, the man keeper caught her roughly by the arm, and, to use my friend's words, "yanked" her out of the room. You all know what that means.

Women must have physicians and attendants of their own sex, just the same as men have. This is so reasonable that the reform will surely come. Both reason and public opinion are with us, and I do not fear.

I have a friend in the room now whom I will introduce to you, for this is more than a speech,—it is also a prayer,—a plea for those who cannot plead for themselves.

This dear young woman now by my side is known to most of you as one who dared for the sake of woman to

simulate insanity, to cause herself to be imprisoned in a place where insane people dwell. She had no difficulty in getting in,—she would have had far more in getting out, if she had not had good friends outside to stand by her. Her name and her experience are a hope and an inspiration to every inmate of an asylum. Since Nellie Bly (applause) dared to enter unbidden and unknown, one gentleman in New York, and another in Chicago have undergone the same experience, and the statement of each, while differing in detail, fully corroborates hers in outline.

In closing, I wish it to be understood that all I have said is strictly impersonal. I have no quarrel with either asylums or individuals, and I have none in my mind in speaking. We are dealing with principles and not with persons. Asylums are a public necessity, and no greater misfortune could come to the class we seek to benefit, than to have them abolished. As they exist in the United States to-day, they are doubtless as good of their kind as anywhere upon the earth, and are greatly in advance of any in the past.

But I respectfully submit that they are not yet perfect in the points I have cited, and in this age of human justice, we have a right to ask for such reforms as look toward absolute perfection. To this end, we summon the united wisdom of the physicians, the lawyers, and the superintendents of asylums, through the International Medico-Legal Socicty. (Applause.)

Chairman Judge Noah Davis: You are all greatly obliged to me, I know, for having called upon Mrs. Thomas. It is my duty to hold the balances as evenly as possible between the two professions in this Congress of Law and Medicine. As medicine has been pretty well furnished this afternoon, I think I shall do no in-

justice to that branch if I venture to ask Judge Curtis to give us five minutes on the subject. (Applause.)

JUDGE GEO. M. CURTIS.

Mr. Chairman, Ladies and Gentlemen:—I must confess that the law, to its shame and to its everlasting reproach, has not kept pace with the scientific principle in the consideration and treatment of mental conditions, and one reason of that may be that it is absolutely impossible for the ordinary lawyer or judge to have a thorough knowledge of the constant advance in this science with his other duties. Now, the true principle, it seems to me, that ought to be established and will be established by the education of such organizations as this, is not that it be sufficient that a person shall know the difference between right and wrong to constitute a sane person, but that he shall have control of the will sufficient to govern his judgment in reference to the deed. In other words, there are many men and women—and it has been illustrated in my professional experience in the case of some of the most conspicuous lunatics of the world—who know the distinction between right and wrong, but who are, while having the intellectual functions to distinguish, unable to control the will-power.

An illustration comes to me immediately in referen e to the alcoholic habit, which, in many instances, i- a form of insanity. This instance is that of one of the ablest men that ever appeared in public life, who was a Senator in Congress, and the Governor of a State, and whose last act in life was one of devotion and loyalty to his country. That man at times was compelled to surrender his individuality to the demon of drink, and permit his character to be dragged to the lowest moral quagmire, because, as he told me with scalding tears

running down his cheeks, he could no more resist the demon than he could stay the flow of Niagara.

That illustrates one principle.

Another bad feature is the criticising of the two professions—the medical and the legal—the one by the other. The physician criticises the strictly legal methods of the lawyer, while the lawyer takes revenge upon the practices of the doctors. Now, one thing should be set on foot by this Congress; it cannot be done in a day; it cannot be done in a year—and that is a plan for the education of physicians as mental experts. When I tell the great judge, and he (Ex-Judge Noah Davis) will always be a great judge, whether he sits on the bench of a court of law, or in the hearts of the people (applause), that an intellectual man, such as Rufus Choate was, for instance, is at the disposition, and in the power, and subject to the caprice of two doctors, who do not know how to properly diagnose a case of fever, he will say I am right.

In my professional capacity as a lawyer, it has been my fortune to examine mental experts from New York to Kentucky. I have tried insanity cases in nine States in this Union, and I could count and can count the competent medical experts whom I have seen on the fingers of my two hands. That seems to be astounding, but it is so.

That very gifted lady who referred to the experience of that charming and wonderful young writer in the asylum, called attention to a matter that has interested many physicians and lawyers—how a young woman could so easily simulate insanity, and deceive even the great Dr. Gray, if he were alive, unless he had the opportunity at the time to properly examine her, which seems incredible. Of course, you know, or at least, the young

lady will remember, that these examinations are to an extent superficial, and are based upon an understood report of fact.

Doctors on insanity should be educated specially for this business. Now, before I close, I wish to call attention to a few cases with which I am familiar, of various phases of insanity. In speaking of those able papers that were written as to the separation of the insane convict and the insane innocent—speaking of those papers that were read in reference to their treatment—how true it is, as Mrs. Thomas has said, that it is essential that the attendants of these unfortunate people in the asylums should be intelligent persons, and not rough and brutal ones. I know that to a great extent, and there are many who will bear me out in this statement, that the attendants are often brutal in their treatment. No one can tell how far and to what extent the physical condition of man is connected with mental development. The doctors know this to be true; for while there often are revealed evidences of organic disturbance, there are innumerable cases where the dissection of the patient confessedly insane, violently insane, has revealed no evidence whatever of organic disturbance.

That insanity is on the increase is beyond doubt. It is, to an extent, a result of speculation; but it is due, in part perhaps, to increased wealth—that is, the facility for increased dissipation; due to the competition in business, in professional life, especially in this great metropolis, this Mecca of the intellectual world, and the violation of the seventh command.

I remember one case which I would like to have Judge Davis carry in his mind when he recalls his other insane causes. The one I now refer to is that of a man living to-day, in good health, physically, sane entirely, so far

as his mental perception is concerned, when not under the influence of liquor. It is a most remarkable case of a man whose whole life was blighted—whose whole life was darkened by the prolonged machinations of those who sought to destroy his freedom. I refer to Dr. Helmbold, a man of the world, and learned in its affairs ; a man whose executive ability built up a business which attracted revenue from every land on the earth, and still a man who, under the influence of liquor presented the spectacle of one entirely, absolutely, without self-control.

There was the case of Col. Buford, who was tried in Kentucky for the murder of Chief Justice Elliott. He was a man of great ability, one accomplished in all respects, and yet who labored under the hallucination that his departed sister communicated with him, and urged him to the murder. Buford was in every respect a remarkable man ; he could repeat whole passages and even chapters of the Holy Scriptures with accuracy. His knowledge of political history was equal to that of Stephen A. Douglass. He was a classical and *belles lettres* scholar.

There was the more recent case of Rhinelander. Rhinelander seemed to be a man of such strong perversion of the will-power that it amounted in its results to apparent insanity, so far as the action of the man was concerned, and still he was very properly declared to be sane, and properly declared to be a person who must meet the responsibility of a criminal act.

The last case, illustrating another phase of insanity, is that of Miss Coffin. She was sent to me by a very prominent mental alienist with the request that I would see that her legal rights were protected, and it therefore became my duty to see that her rights were so respected.

She was tried under the system that now prevails. That is, before a layman, a lawyer, a doctor and a sheriff's-jury. On the evidence as submitted there, she was undoubtedly sane, but in point of fact, there can be little doubt that she was insane so far as regarded an affection that she had conceived for a very popular player. Now, ladies and gentlemen, in her case were personified wit, culture, address, and, to sum up, I might say great business ability. She was very business-like indeed, when it came to settling up for the case; she cheated all the lawyers and doctors in the action. (Laughter.) But as regards her hallucination in reference to the distinguished tragedian, I have no doubt that this hallucination, or whatever it may be defined, was positive.

I think the lawyers and doctors should work together in this great science. I fear that too much of the spirit of envy exists among professional men. "Wrath is cruel, anger is outrageous, but who can stand before envy," saith the Scriptures. We should eradicate this moral leprosy from the mind as far as permitted by our common human nature.

I did not expect to speak. I thank you very much, ladies and gentlemen, for your kind attention, and also the President for his kind notice. (Applause.)

Chairman Judge NOAH DAVIS: Now, ladies and gentlemen, as Chairman of this meeting, I feel that I have contributed a little to your pleasure, and now, using the prerogative of my office, I propose to make you supremely happy by declining to make any speech myself. (Laughter.) Of course this discussion has been an interesting one, and I should like to suggest before this Congress adjourns, the question: How can Insanity be best Prevented? I do not see that question on any of the papers to be read before us. The fact is, I fear, that

we live in an age when the tendencies are toward insanity. All human beings properly made up, I fear it must be admitted, have a fine vein of insanity running through their system, and I think the wisest course is for doctors to enter into a discussion as to how insanity can be prevented; how can its course be determined; how can men be protected from its fearful effects? We should strike at these through the fundamental question, how can it be prevented? We live in an age which, by the instrumentality of the telegraph and the railroad we get the news of all the murders, of all the suicides and of all the happenings over the entire country, over the entire world, and we dine upon these choice morsels and are in a constant whirl of excitement. The tendencies of the people in large cities are vastly greater towards insanity than in the country. How can we educate our people, by what sort of treatment can we properly teach them, so that these things can be received by them without causing this great mental excitement and strain?

We must teach them as the Indians teach their children, in the manner prescribed by the Latin maxim, that we must not be surprised at anything we hear or see. If that can be done, so that those terrible things that are now happening in this country, in other countries wherever news is gathered by the wide-stretching wires of the telegraph. If we can do that we shall accomplish largely the greatest benefits that can be accorded to man in respect to that terrible disease, insanity of the mind. (Applause.)

Chairman: It is simply my duty to say that this meeting is adjourned, and invite you all to be present at its future sessions, and bring your friends with you.

Clark Bell, President.

M. Ellinger, Secretary.

MORNING SESSION—THURSDAY, JUNE 6.

CLARK BELL, ESQ., President, in the chair.

The session was opened by prayer by Rev. Dr. G. Gottheil.

PRAYER.

O Thou Infinite Being, who revealest Thine own nature in our love of right and of truth, whose spirit breathes in our aspirations after the good and perfect life, we would begin our work with the ever blessed thought of Thee, that thereby we may be endowed with strength and directed in our search after light and wisdom. We would be comforted with the knowledge that in laboring for the well-being of our fellow men we are offering Thee an acceptable service; and in establishing righteousness upon the earth, we are making Thy heavenly kingdom come to us. We would so consecrate our endeavors to high and noble ends that we might come to Thee in the boldness of faith and trust, asking Thy favor upon the works of our hands.

Grant, O God, that from the experience stored in the annals of human history, from the study and observation of the laws by which this world is governed, and by the earnest counsel which we take together, new light may rise over dark places and the shadows recede more and more, which are still covering the administration of justice; grant that we may gain clearer insight into the more hidden workings of the human mind and a fuller understanding of the secret motives and impulses of the human heart, and thus learn ever more truly to estimate the measure of our responsibilities.

Graciously preserve us from all pride and all overbearing sense of achievement, those stumbling blocks in the way of true science and widening intelligence, and help us duly to discriminate between the compelling force of reason, of argument and of knowledge, and the delusive power of mere self-assertion and self-will. For then alone can we hope to find the truth. May the good we have been able to accomplish work in us for that faith which grows in strength with the magnitude and the importance of the tasks we set before us. May all resolve in Thy Divine Presence, to build the City of God on the eternal foundations of right and of justice, and make it a refuge for the innocent and a place of retribution to the guilty.

Let love and kindness and mutual toleration reign in our counsels, and may it always be our endeavor to temper justice with mercy, to redeem the fallen brother and sister; may we never fail to consider in the darkest crime the same weakness and the same passion to which we ourselves are

subject and from which we are saved by the favor of our conditions; and may this knowledge deepen our pity with the sinner and our compassion for those whose feet have been caught in the s are. O, how wonderful is the power of love! In the midst of a terrible visitation that has fallen upon our people it rises like a messenger from a higher sphere. When the raging forces of the material world, blind and destructive, threatened to uproot our faith in a wise and beneficial ruler of our destinies—love appears as to give us new assurance and to speak peace to our troubled and despairing hearts. In the midst of our grief and pity for the suffering let us still adore the Power which alone can adjust and compensate, and bring out good from evil, joy from sorrow, light from darkness; let us do it in the silence of that reverence which is too deep for words, too sacred for speech and which is the purest and holiest worship of the All Perfect. Amen.

The President called Dr. S. TUCKER CLARK, of Lockport, to the chair, who presided at the morning session.

The paper, "A Study of the Skulls of Criminals," by Dr. FREDERICK PETERSON, was not read by reason of the illness of Dr. Peterson, who advised the Chair of his inability to complete it, and promised that he would do so later and read it before the Society.

The paper, "Mental Epidemics," was read by EX-CORONER ELLINGER, the Secretary of the Congress.

The paper, "Freedom of the Will," by Dr. C. A. F. LINDORME, of Fort Reed, Florida, which was to have been read by Dr. W. G. Stevenson in the absence of the author, was, on account of Dr. Stevenson's absence, read by title.

A paper by Rev. Dr. WM. TUCKER, of Ohio, on the "Philosophy of Criminal Law," was also read by title by reason of the absence of the author, and the pressure of time upon the Congress.

A paper by R. S. GUERNSEY, Esq., of the New York Bar, on "The Power to Transmit and Record Language," was read by the President at Mr. Guernsey's request, who was present.

The paper on "The Abolition of the Coroner in Massa-

chusetts," by THEO. H. TYNDALE, Esq., of the Boston Bar, was read by Mr. Tyndale.

CHAIRMAN: The discussion is now in order.

ALBERT BACH, Esq.: This discussion of the papers which are read before this Congress is, perhaps, of as much importance as their reading, and it is to be hoped that those present, having ideas to express, will give their opinion on these subjects.

It strikes me that while Mr. Tyndale may be entirely correct in his relation of the abuses of the system as it existed in Massachusetts, it is hardly fair to consider the office of the coroner, its duties, its powers, and the performance of those duties, and the exercise of those powers in the light of an absolute abuse. I look upon the office of coroner as an exceedingly essential one. If you have a man who is incompetent to perform the duties of that office, then blame the man, but do not blame the office. In this State the office of coroner is a judicial one. The coroner has his deputy, who is a physician and in many instances an experienced surgeon, surgical operations being peculiarly requisite in cases coming before that official.

The coroner, as we all know, sits as a judge, while the autopsy is performed by the deputy.

It does not strike me that in our experience in this city we have had men as coroners of such great carelessness or great ignorance, as a rule, as we have been here referred to by the reader of the last paper, as characteristics of the men who have filled the office in Massachusetts. It is excedingly advisable to have a prompt investigation of the cause of a person's death, and it is at the same time vitally important that no man shall be deprived of his liberty on suspicion, unless he has the opportunity of an immediate hearing. That opportu-

nity, in my experience, has been invariably afforded him in the City of New York through the coroner's office, and I do not think it fair to assume that the same opportunity has not been afforded in different parts of the world where the institution of coroner and his jury exists. True, you will have ignorant jurymen preside over a case in the coroner's office, as you will have ignorant jurymen preside in cases in every court. They have to take the evidence as given, they are presumed to be intelligent men, and I believe that our coroners here are particularly careful not to select men who are known for their ignorance. I think they see to it that intelligent individuals sit on their juries.

Now, in the great rush of judicial procedure in a large city, it is almost impossible that a man have an immediate hearing in our criminal courts, and even if he had, the investigation is not of the satisfactory character that he can have before a coroner's jury. In a hearing before a coroner, the question is, has the person met his or her death by other than natural causes? The deputy, having made his autopsy, gives his evidence, and physicians known for their ability testify as experts, and the matter, together with the circumstances concerning the death of the person, if ascertained, are given to that jury, to say whether the person or persons suspected shall be held. Such a course is entirely proper, for if a man were to be indicted in the first instance irreparable injury might be done.

I do not know whether you are all acquainted with the methods adopted for procuring an indictment. In obtaining an indictment, the accused has very little to say, and he has very little opportunity to do anything to defend himself. His opportunity comes after the indictment is found and he is put on trial at the trial session.

Imagine the terrible calamity to a person who is innocent, of being indicted on the ground that he has committed a crime. You say: Oh, he will have a chance to exculpate himself before a petty jury. But there is always the moral effect of an indictment by the grand jury. There is a stain of an indictment, which cannot always be wiped out. I have known people who, while talking to me would point out a man and say, "He was indicted for a crime." There is a lurking suspicion that there was some reason for that indictment.

By the coroner's system it must be shown that the man can be legally held at all, and if the coroner's jury exculpate him, although a subsequent indictment may be found against him, the court considers the weighty influence of the verdict of the coroner's jury.

Therefore I say it is not just, and I say it with the utmost respect for the reader of this paper, it is not just, it is not right, to condemn the coroner's jury system on account of the abuse of that system in one particular locality.

CHAIRMAN: The discussion is still in order. Has any member or delegate any observations to make on this topic?

Mr. Tyndale: I would like to ask one or two questions. What do you do with your coroner's verdict when you get it?

Mr. Bach: The verdict of a coroner's jury can be used in this State, and the evidence given before a coroner's jury can be used in this State on the trial before a petty jury. The witnesses who are called in behalf of the prosecution before the petty jury can be confronted with their sworn evidence given before the coroner's jury and in that manner their remarks or testimony be-

fore the petty jury can be rectified by their sworn testimony taken before the coroner's jury.

Mr. Tyndale: In other words, it would be a cross-examination? Mr. Bach: Yes.

Mr. Tyndale: Who appoints these assistants? Mr. Bach: The coroners themselves.

Mr. Tyndale: And how do you select your coroners? Mr. Bach: They are elected

Mr. Tyndale: What class of men do you elect? Mr. Bach: We elect men who are presumed to be men of good sound common sense.

Mr. Tyndale: But are they? Mr. Bach: As a rule they are in this city.

Mr. Tyndale: Why don't you select a judge or lawyer, and get at the thing directly? Mr. Bach: For the reason that the coroner takes but such evidence as under the law he has the right to take. The question of fact is entirely submitted to the jury. Considerable latitude is given to a coroner's jury, without an adherence to strict rules of evidence, as we adhere to in our courts.

Mr. Tyndale: That is what we complained about in our State. Mr. Bach: I say, with all respect to you, because the system did not succeed well in Massachusetts, it is not fair to disapprove of the whole coroner system.

Mr. Tyndale: You admit the latitude? Mr. Bach: There is a latitude.

Mr. Tyndale: Why, then, should there be a judicial investigation for such cross-examination; why not proceed at once? You surely do not indict a man here without good cause. Why can't you reach it through a jury, and reach it more directly, without loss of time?

Mr. Bach: Because it can be done more rapidly through the coroner, on account of our complicate calendars, and

it is a speedier determination whether a man can be held at all.

Mr. Tyndale: The coroner cannot bind him over? Mr. Bach: Yes, he has that power.

Mr. Tyndale: He is not tried, however, on what the coroner finds? Mr. Bach: He is simply confined on the verdict of the coroner's jury. The verdict of the coroner's jury in this State is not useless. That is the difference that exists between your State and ours.

Chairman CLARK BELL: I will make a few observations on Mr. Tyndale's paper. I quite agree with the author on the entire uselessness of the coroner's office under our laws. Some years ago the subject was brought before the Medico-Legal Society, and some papers were read and an application was made here to abolish the office of coroner. A paper was contributed by myself at that time which might be of interest in this discussion, entitled: "*The Coroner's Office—Should it be abolished?*" I contribute it again, as the subject is thus again resumed. The office of coroner was made part of our organic law by a section of the Constitution of the State, which provides that there shall be four coroners elected within each county, and the office could not be absolutely abolished without changing the Constitution. I think that had this constitutional question been then raised, it would have been abolished or substantially modified.

The only remedy left was to limit and restrict its powers, and practically make it an obsolete office by legislation.

I differ with my brother Bach as to the effect and practical working of the coroner's office in New York. Criminal proceedings can be instituted in New York without any application to the coroner, and, indeed,

usually are. You go before the Grand Jury with your complaint, and can procure an indictment entirely irrespective of the coroner's transactions and proceedings.

Whatever the coroner does has no legal effect upon the subsequent proceedings. For instance, if the coroner's jury should decide that no crime had been committed, it would not make the slightest difference with the Grand Jury's action, or the opposite, if they found there had been a crime committed. The proceedings of the coroner, the expenses of the coroner and the inquest are just so much time, money and labor thrown away, beyond all question. The evidence before the coroner is not read before the Grand Jury, and you cannot read the proceedings of the coroner's jury, or the evidence taken then, on the trial of a man on an indictment for the offense, because it might prejudice him improperly. The law does not provide for a stenographer before a coroner. You might bring in to confront a witness his evidence as to a different statement of facts from what he swore to on the inquest, provided you could prove that the witness swore to one statement then and another at the trial, but that is all. For example, take the recent case of Bishop. The proceedings have been extended and costly, many witnesses examined, but the verdict of that coroner's jury has not the slightest effect or is not of the slightest consequence to the people or the accused, in a legal point of view. For instance, you observe in this morning's papers that the District Attorney is considering whether he will lay this case before the Grand Jury. It is for the District Attorney to consider and decide whether the case should go to the Grand Jury. It can indict these accused persons without reference to the action of the coroner's jury.

NOTE.—An indictment in the case was found against the accused by the Grand Jury shortly after this session.

The coroner's jury is one of those obsolete inheritances which have come down to us from the English system, and is most aptly characterized by Shakespeare in his writings, and its administration as "*Crowner quest law.*"

The evils of the system that the gentleman from Boston has stated, I can double and quadruple by instances in the State of New York, but after the agitation upon the subject some years ago, they have elected a very respectable and competent class of men to the office in the City of New York. Before that we had a low type of men for coroners, livery-stable men, undertakers and politicians entirely incompetent to discharge its duties. After the agitation on the subject of abolishing the office, introduced by the Medico-Legal Society in New York City, a much better class of men were nominated for the position, by consent of all the political parties, and their election was mainly due to the fact, that the time had come when the public would not submit any longer to such abuses, as were then public scandals. Mr. Ellinger, our Secretary, was elected under this new system as one of the coroners of this city. (Applause.) So was Dr. M. J. B. Messemer, who now holds the office by re-election—both members of that society at the time. The coroner is a committing magistrate under our law, and has the power to hold to bail in certain cases.

I feel that the French system, or the German system, or the Massachusetts system would be a great gain to us, because then we could proceed with our preliminary investigation before the magistrate with the same force, and with much more intelligence and certainty than before the coroner's jury. In the French system there is a physician appointed who has exclusive charge of the medical side of the case, who acts for the people. By

the Massachusetts law, the medical examiner is a medical man, who has charge of the medical side of the case, and the Courts and the prosecuting law officer has charge of the legal side of the case. It becomes a regular judicial proceeding, and is not a farce, as our proceedings before a coroner frequently are. The Massachusetts law is a great advance. It is a step forward. It is a great economy to the State in the administration of justice. It secures and provides for and maintains a system by which skilled medical men conduct and are held responsible for all the medical questions arising in these cases. Massachusetts, by abolishing the coroner system, has placed herself in the front rank of progress in criminal procedure, and no one can carefully examine the working of the Massachusetts system, and contrast it with the coroner system without seeing how much superior it is to the latter.

The paper which I submit will explain more fully and in detail the views I then entertained, and which I now regard as of still greater importance, and which have been since substantially adopted in Connecticut and Rhode Island, and are destined to obtain in other States of the American Union, as I believe.

Dr. W. W. Godding: I do not wish to take the time of this Congress unnecessarily, but I desire to say a few words in regard to the very interesting paper of Mr. Ellinger on Mental Epidemics. That paper would leave the impression that madness or enthusiasm in anything is a form of insanity, the microbe of which we have not yet discovered. The French Revolution is an admirable illustration of what I mean. There, in Paris, for four days, the mob raged, and the infection spread with lightning rapidity, and yet a psychologist like Napoleon only needed to turn his guns upon that crowd and the microbe

vanished. I do not think this madness of the multitude is a brain disease, insanity.

Mr. M. ELLINGER: Mr. Chairman, ladies and gentlemen, I do not wish to take your time, but merely say that I did not intend to describe the French Revolution as a contagious madness, but I meant to show that the same process by which the passion of insanity flourishes, and madness spreads, in the same way do benevolent ideas carry one on in a reformation.

The CHAIRMAN announced that: The excursion boat will leave at 1:30 P. M., and delegates were requested to be present; also, that this evening, at nine o'clock, a visit will be made to the office of the New York *World*, where the members of the Congress will be received by the proprietors of that journal, and shown the operation of their presses.

On Saturday morning, at ten o'clock, a special train will be furnished by the directors of the Morris Plains Asylum, to such as wish to visit that institution. The train will start from the D. L. and W. R. R., at the Hoboken station, at ten o'clock A. M. This is one of the most interesting institutions in New Jersey, and one of the largest and most imposing of State insane asylums.

About forty members signified their intention to go, and the Chair was authorized to advise the officials at Morris Plains.

The morning session closed.

CLARK BELL,
President.
M. ELLINGER,
Secretary.

JUNE 6th, 1889, Afternoon, 1:30.

THE VISIT TO THE CITY INSTITUTIONS FOR THE INSANE OF NEW YORK CITY.

The visiting delegates were received at 1:30 P. M., upon the steamboat, by President H. H. Porter, of the Board of Commissioners of Charities and Corrections, and Dr. A. E. MacDonald, Medical Superintendent of the City Institutions for the Insane. The first visit was made to the Institution at Ward's Island, where the party were met by the entire staff of physicians and corps of assistants, except Dr. G. F. M. Bond, who was absent. A thorough visitation and inspection of this establishment was made. Refreshments were furnished by Dr. A. E. MacDonald in his apartments.

The steamboat then proceeded with the party to the Asylum for Women on Blackwell's Island, under the charge of Dr. Dent, as Medical Superintendent, where an inspection was made. The city prisons were also visited at this point, and the party returned, about five o'clock, to the city, very highly pleased.

The courtesy and hospitality of Dr. MacDonald and his medical staff were highly appreciated by the delegates, and the occasion was very pleasant and interesting. Dr. MacDonald furnished the following statement as to the institutions under his charge :

THE NEW YORK CITY ASYLUMS FOR THE INSANE,
NEW YORK CITY, June 23, 1889.

CLARK BELL, ESQ., 57 Broadway :

My Dear Sir :—The census of the City Asylums upon the day of your visit was as follows:

Ward's Island Asylum	1,837
Blackwell' Island Asylum	1,754
Hart's Island Asylum (males)	212
" " " (females)	874
Central Islip "	141
Idiot Asylum, Randall's Island (males)	192
" " " " (females)	108
Reception Pavilion, Bellevue Hospital	10
Total	5,128

THURSDAY EVENING, JUNE 6, 1889.

THE PRESS ROOMS OF THE NEW YORK WORLD.

The visit of delegates to the offices and press rooms of the New York *World*, was a novel and highly interesting feature of the Congress. Those delegates who attended will not soon forget the wonders of that remarkable and phenominal newspaper.

The visit was made at 9 o'clock P. M., and all the operatives were at work in every department, preparing for the issue of the *World* of the next morning. The *World* was represented by Mr. Cunningham, who conducted the party through every department of the great establishment, from the editorial rooms at the top of the building, to the vast press rooms in the basement.

The great press was set in motion, (we submit the statement furnished us by its manager) and the wonders of its work and of the foundry for casting the type into semi-cylinders for the great army of presses, that all move at about two o'clock in the morning, when the enormous edition is printed, were fully explained.

PUBLICATION OFFICE,
WORLD BUILDING, PARK ROW,
NEW YORK, June 20, 1889.

Clark Bell, Esq., 57 Broadway, New York:

DEAR SIR: The capacity of the quadruple press that you saw in the *World* press room, which is the largest printing machine in the world, is as follows:

90,000 four-page papers per hour.
45,000 six or eight-page papers per hour.
24,000 ten, twelve or sixteen-page papers per hour.
Delivered, printed, pasted, cut, folded, and counted in lots of 50.
The next largest press is just half this capacity.
The average daily circulation for the last three months was as follows:
March, 345,468; April, 350,256; May, 345,808. Yours truly,

G. W. TURNER, Business Manager.

It is hardly possible to describe the real marvels of this establishment. It must be seen to be appreciated. It is wholly unrivalled and without a parallel in the world.

A vote of thanks to the *World* was voted by the visitors.

MORNING SESSION, JUNE 7TH.

President CLARK BELL, ESQ., in the chair:

Bishop E. G. Andrews being unavoidably absent, Rev. Dr. Edward P. Thwing offered prayer:

Author of our being and Inspirer of every high and holy impulse Bestow on us, Thy servants gathered here, the illumination of Thy wisdom and the guidance of Thy grace. In Thy light, alone, shall we see light. For the brightness and beauty of the heavens we thank Thee; for all the felicitous circumstances of our meeting here; for the memorable past to which this Congress is a witness, and for a future to be, we believe, still more illustrious, of which it is an augury. Preside in all our sessions. Guide all our deliberations. Give dignity and weight to all our decisions. From mental indocility, from professional jealousy, from everything that narrows or darkens our horizon of thought, good Lord deliver us!

May all our works, begun, continued and ended in Thee, be to Thy glory and for the good of our fellow men. So by this, and by all our earthly fellowships, may we be the better prepared for that august assembly of the wise and good, in the presence of the King, to whom, through Jesus Christ, be and for evermore. AMEN.

The PRESIDENT: I have received a letter from Chief Justice Bermudez this morning. He is ill at the Hotel Lafayette, in Philadelphia, and is unable to get the consent of his physician to leave his room. He writes that he is with us in spirit, but will be unable to preside. I therefore ask your permission to appoint as Chairman of the morning session Prof. Kedzie, professor of chemistry in the Agricultural College of Michigan, and who represents the American Academy of Medicine at this Congress. (Applause.)

Prof. R. C. KEDZIE took the chair and briefly returned thanks for the honor.

President BELL: Mr. Chairman; there is some business before the reading of papers is taken up, to which

I desire to call the attention of the body. At the time the Committee on Permanent Organization reported, naming a few vice presidents, it was intended by that committee to provide for the election of additional vice presidents, to be selected from each state, territory, province or country. It seems to me discourteous to prominent men, who were instrumental in promoting this Congress, that the vice-presidents should be numbered in order, as first, second, etc. It was not the intention of the committee that the vice-presidents should take any special rank by number, as indicated by the reports in some of the morning papers. I desire to make the following motion :

Resolved, That in addition to the vice presidents already elected, the following gentlemen be elected as additional vice presidents of this Congress:

Sir John C. Allen, of New Brunswick.
Edward F. Bermudez, of Louisiana.
Gov. Biggs, of Delaware.
Dr. Daniel Clark, of Toronto, Canada.
Ex-Chief Justice Noah Davis, of N. Y.
Dr. Edward J. Doering, of Illinois.
Prof. John J. Elwell, of Ohio.
Judge W. H. Francis, of Dakota Territory.
Dr. W. W. Godding, of Washington, D. C.
Dr. Eugene Grissom, of N. C.
Dr. Carl H. Horsch, of N. H.
Judge Locke E. Houston, of Miss.
Dr. Charles H. Hughes, of Mo.
Dr. W. W. Ireland, of Scotland.
Prof. Robt. C. Kedzie, of Mich.
Dr. Norman Kerr, of England.
Dr. Jules Morel, of Belgium.
Dr. Jennie McCowen, of Iowa.
Dr. Connolly Norman, of Ireland.
Prof. John J. Reese, of Pa.
Dr. Bettincourt Rodrigues, of Portugal.
Judge H. M. Somerville, of Ala.
David Stewart, Esq., of Maryland.
Theo. H. Tyndale, Esq., of Mass.

And that no distinction of members exist among the vice presidents of the Congress.

Motion seconded and carried unanimously. The several gentlemen nominated were declared elected. It was

Resolved, That the President be authorized to appoint additional vice president for each state, territory, province or country from those in each who would unite and take an interest in the work and the success of the movement.

President BELL: It is well known, that in both professions of law and medicine, in the universities and colleges of learning, the science of medical jurisprudence has in many instances been sadly neglected. Now that we have assembled a Congress devoted to that science, it seems to me, that we should emphasize our sense of what has been said in that respect as to both professions; and I desire to move: That as the sense of this Medico-Legal Congress now assembled, it is the manifest duty of every college of learning, or university in which law or medicine is taught to establish and maintain a chair of medical jurisprudence.

Motion seconded and carried unanimously.

Prof. S. TUCKER CLARK, of Lockport, N. Y., offered the following resolutions:

Resolved, That this Congress shall be a permanent organization, with power to continue the enrollment of new members, and that when it adjourns it shall adjourn to be called at such time and place as the officers of the Congress shall deem for the best interest of the science.

Motion seconded and carried unanimously.

President BELL moved the following resolution:

Resolved, That the transactions of the Congress shall be published under the supervision of the President and Secretaries and such additional members as the Chair shall add to the committee on publication.

Motion seconded and carried unanimously.

Dr. S. T. CLARK offered the following resolution:

Resolved, That it is the duty, and would add to the interest and benefit of the legal and medical professions, if every National and State Medical Society, and every National and State Bar Association in the United States

should appoint a standing committee upon medical jurisprudence.

Motion seconded and carried unanimously.

The first paper, by A. WOOD RENTON, ESQ., of London, on "*Medical Expertism in the Old World*," in the absence of Mr. Renton, was read by Dr. S. T. CLARK.

The paper, "*Live Birth in its Medico-Legal Relations*," by Prof. J. JOHN REESE, of Pennsylvania, was read by the author.

"*Expert Testimony in Homicidal Cases*," by Judge WM. H. FRANCIS, of Dakota, the next paper, was read by Prof. EDWARD PAYSON THWING, M. D., in the absence of the author.

The paper, "*Medical Expertism Considered from its Legal and Medical Standpoints*, by T. GOLD FROST, ESQ., was read in the absence of the author by Dr. LE MONNIER, of Louisiana.

The paper, "*Shall we Have an American Penal Colony?*" was read by the author, Dr. HENRY S. DRAYTON.

Dr. DRAYTON: You will perceive that the topic that I have selected for this paper will appear to be somewhat out of the common line of topics discussed on an occasion like this, but I think that before I shall have finished you will perceive that there is an important bearing upon Medico-Legal topics in this matter of penal colony, especially in its social aspect. The subject is an exceedingly broad one that I have chosen, and in the paper, which will occupy but a few moments in reading, I have merely touched upon its border, mainly its social relations.

Professor KEDZIE: Mr. Chairman, the subject of expert testimony is now before you for discussion.

President BELL: As the hour is late, perhaps it would

be well to limit the speakers to five minutes, and I so move. Carried.

Prof. JOHN J. REESE: Mr. President, I would offer the following resolution. I came into the room just as Mr. Bell had offered his resolutions this morning, regarding forensic medicine in colleges, and therefore had no opportunity to offer this at the time as an amendment. If it is not too late, I would like to offer this either as an amendment, or as a separate resolution:

"*Resolved*, That in the opinion of this Medico-Legal Congress, not only should the subject of medical jurisprudence be recognized in the various institutions of learning, but in the medical and law schools of this country; that such schools should include such a course in its curriculum of studies, and that examination on this subject be made necessary for graduation in either medicine or law."

I might say, in support of this resolution, that it is well known that in very few, if any medical schools, is such an examination required. In a great many institutions it is written on their curriculum—medical jurisprudence—but when we come to sift the matter, it means nothing. That is to say, it is put upon the list of studies, but it is not really taught. I speak from experience. I come from Philadelphia, where there are three well-known schools, in not one of which is the study of medical jurisprudence made obligatory. I know that the colleges in New York also mention medical jurisprudence, but whether the study of it is insisted upon as a necessary factor in the graduation of the pupil, I do not know.

President BELL: It is not, I regret to say.

Professor REESE: Well, it seems to me that some such action should be taken. It is so throughout the coun-

try. I believe that in Ann Arbor, Mich., the study of medical jurisprudence is insisted upon.

Chairman Professor KEDZIE: It is.

Professor REESE: I am very glad to hear it. I know that lately the Illinois State Board of Health will not allow any one to act as practitioners unless they have a knowledge of medical jurisprudence. I believe it is so in Florida, California and Michigan. A few other States are coming into line, but I am very sorry to say that in Pennsylvania, New York, and in all of the old States, this subject is not properly considered. Now, I want to give emphasis to the resolution of Mr. Bell, and am willing that this be either annexed as an amendment to his resolution or introduced as an original resolution.

President BELL: Professor Reese's amendment is so far reaching and of such importance that I think it had better be taken as a separate resolution.

At present, the graduate is frequently given a certificate as M.D., without having the slightest knowledge upon the question of insanity, or ability to know when a man is fit to go into a lunatic asylum. To be a completely qualified medical man, one should pass through a course of study to fully qualify him for that position; and every physician, it seems to me, should be educated in medical jurisprudence. It seems an anomaly that our laws should provide for the commitment of insane persons upon the certificates of the medical men, and yet have no safeguard as to the competency of the medical men to certify. We all know the general ignorance of the medical profession upon this branch and other branches of forensic medicine. It is a crying evil. I heartily second the resolution of Professor Reese, and if it is instrumental in enabling this Congress to bring the

attention of both professions to this important subject, it will justify its being called together. (Applause.)

Prof. Simeon Tucker Clark: Mr. Chairman, I wish to second that resolution of Professor Reese. The University of Buffalo taught medicine for forty years, without recognizing the fact that medical jurisprudence was requisite, her professors deeming it only necessary to give a few hints on this subject as connected with their chairs. But five years ago, when the medical department of Niagara University was instituted, one of the first results of its work was the establishment of a Chair of Medical Jurisprudence, and with such success, that the Buffalo University immediately appointed a Professor of Medical Jurisprudence. In both these institutions to-day, it is necessary to be examined in this study in order to pass a medical examination for a degree, and I can assure you that in Niagara University, medical jurisprudence is firmly established. The students of this college are taken to the several court rooms when medical examinations are going on, or expert witnesses on various subjects are heard, and the young men take notes of the case and study them over afterwards. In fact, jurisprudence is clinically taught.

Dr. Y. R. Le Monnier, Coroner of New Orleans: I heartily concur with all that has been said about the necessity of teaching medical jurisprudence. Lawyers themselves frequently admit that they know little or nothing about it. Coroners should not be undertakers and men of the like, wholly uneducated in forensic medicine, as was formerly the case in my section of the country, but fortunately is no more since the Constitution of 1879, which demands that a coroner should be a graduate of medicine from a respectable school. We cannot speak out too firmly, for the sake of society, for

that of the unfortunate insane, and for our own sake, that medical jurisprudence be properly taught.

Resolution offered by Professor Reese was carried unanimously.

President BELL: I wish to move, Mr. Chairman, that the Committee on Publication be authorized to include in the Bulletin of these transactions such correspondence as they have received and may deem necessary to preserve in this manner, in order to make the record complete.

Motion seconded and carried.

President BELL: Before adjourning, I wish to state that it is expected of the members of this Congress to hand in their enrolling fee as members to the official stenographer.

Motion to adjourn morning session seconded and carried.

AFTERNOON SESSION, JUNE 7TH.

President CLARK BELL in the Chair.

PRESIDENT: I have the honor, and I esteem it a very peculiar pleasure, to introduce as the Chairman of the afternoon and closing session of the Congress, the Hon. David Dudley Field. (Applause.)

Mr. DAVID DUDLEY FIELD, Chairman: Ladies and Gentlemen, the first paper is on "The Sense of Smell in Medico Legal Cases," by J. Mount Bleyer, M. D. (Applause.)

Paper read by Dr. Bleyer.

CHAIRMAN: The next paper is on "Medico Legal Points of Rare Cases of Simulated Nervous Disease," by Prof. J. K. Bauduy, of St. Louis.

Prof. BAUDUY: My apology for introducing this case may be because the eyes of the entire West has been upon it.

Paper read by the author.

Dr. QUIMBY: I would state that at the time of my departure from St. Louis last Monday morning, I requested the senior counsel to keep the boy under the surveillance of the police. Last night I received from Mr. Marshall McDowell, the senior counsel for defendant, the following dispatch, which I will read:

"J. K. Bauduy, New York City: Careful inquiry among neighbors and associates of the boy, Willie Meyer, fails to disclose any manifestations of fits since the trial. He mingles daily with former playmates, apparently as well as ever he was. Signed,

MARSHALL MCDOWELL."

CHAIRMAN: The next paper is on "Some Forensic Features of Psychology," by Prof. Edward P. Thwing, M. D., of Brooklyn.

The paper was read by the author.

CHAIRMAN: The following papers will be read by title, their authors not being present, and the lateness of the hour forbidding their being read:

"The Legal Relation of Imbecility and of Suicidal and Homicidal Monomania," by Edward C. Mann, M. D., of New York.

"Hereditary Criminality," by Mary Weeks Burnett, M. D., of Chicago.

"Province of Medico Legal Societies," by S. Hepburn, Jr, of Carlisle, Pa.

CHAIRMAN: The next paper is on "The Preservation of Medico Legal Evidence, in Capital Criminal Cases, as Affected by the Disposition of the Dead," by C. A. Harvey, D. D., which was read by the author.

Chairman DAVID DUDLEY FIELD: The Secretary reminds me that there is yet a great deal to be done, and he therefore instructs me to read the following papers by title, which I will do:

"Electrical Distribution," by Harold P. Brown, Esq.

"Legislative Control of Dangerous Electric Currents," by J. Murray Mitchell, Esq.

"Electricity and the Death Penalty," by Clark Bell, Esq.

With this announcement the papers that are to be read by this Congress are finished.

The discussion is now open for the papers that have been read to-day. After that we will adjourn, in order that provision may be made for the banquet to-night.

Dr. QUIMBY: Before the discussion proceeds, I would like to move a vote of thanks to the Messrs. Steinway for their kindness and liberality in donating this hall for the use of the Congress.

Motion seconded and carried.

Similar motions of thanks to the Commissoiners of Charities and Corrections, the proprietor of the New York *World*, and the Board of Trustees of White Plains Asylum were adopted.

Dr. QUIMBY: I wish to make another motion; that we tender a vote of thanks to our President, Clark Bell, Esq., for his individual and extraordinary efforts in promoting and carrying on this Congress. The labors of Mr. Bell have been arduous and exacting, and have occupied very much of his time, and I do not detract from others in ascribing to Mr. Bell the credit of giving the high character and the great success, that the Congress has attained.

Mr. WM. LANE O'NEILL: I am one of the readers of papers here, and I think I have a right to say a word on

this subject. This vote should not be passed in silence. I feel, and I suppose every one of the members who have read papers here, and who have had opportunities of observing the zeal, the energy, and the devotion of our esteemed President to this great work, and his noble contributions to forward the great cause of Medico-Legal Science, feel that we have had at our head a man who has done all in his power to make this Congress a success. I therefore think that it is fit that the vote be not allowed to pass in silence. I feel that my thanks are due, and I take the liberty of saying that your thanks are due, in a very pertinent way, to Mr. Clark Bell for the noble part he has taken in this great work, and therefore I have much pleasure in seconding the motion which has been most properly put. The motion was unanimously adopted.

President Bell resumed the Chair: The temporary Chairman informs me that there is no disposition to continue the discussion of the papers, and I thank you all for your presence and aid and the attention which has been given, in behalf of the Congress. I now declare this session of the Congress closed.

Clark Bell,
President.

M. Ellinger.
Secretary.

THE BANQUET.

The closing ceremonies of the International Congress were held at a Banquet given on Friday, June 7th, at 7.30 P. M., at the Hotel Marlborough.

The President, CLARK BELL, Esq., in the Chair.

The hall was beautifully decorated with the shields of the American States, and the flags of all nations commingled with the American flag. On the right of the Chair was the Hon. Chas. A. Dana, Gov. Biggs, of Delaware, Jos. Howard, Jr., of the *Press* and prominent representatives of the leading societies and journals. On his left was Hon. Ellis H. Roberts, United States Treasurer; Hon. Noah Davis, Mrs. Clymer, President of Sorosis; Prof. John J. Reese, Mrs. Louise M. Thomas, Ex-President of Sorosis; Coroner Le Monnier, Mr. and Mrs. Thos. Chalmers, and prominent artists and members of all the professions and a large company.

The Rev. Dr. Thwing said grace.

President CLARK BELL.—Ladies and gentlemen, the courteous manager of the Marlborough Hotel, (Mr. Blanchard), if he had his own way, might occupy the whole evening in serving this superb banquet, but, as it is getting late, I propose to interfere with the programme, and introduce the post prandial feast before the supper is ended.

Now, if there is one thing any more than another, that is omnipotent and influential, in the dissemination of what we believe to be the truth—speaking in a purely medico-legal sense, it is the press, is it not? (Voices, Yes, yes.)

We look to the press of the future, as we have,

fortunately, in the past, to illustrate in its efficient way, which its managers know so well how to do the work that is to be accomplished in our day, and we hope to secure in the future that splendid aid it has given us in the past. It is our good fortune to have with us this evening a gentleman who has been with the journalistic profession so many years, Mr. Joseph Howard, Jr., and who has always been one of the brightest ornaments of his profession. I shall ask him to respond for the "Press," because of his conspicuous relations to it in general, and the newspaper called the *Press*, which is making such steady advances in popular appreciation, through the influence of Mr. Howard's popularity as a writer.

MR. JOSEPH HOWARD, JR.

expressed the greatest possible surprise that he had been called as the first speaker on an occasion like the present, especially when the Nestor of American journalism was at the Board, where that silvery-haired and patriarchal Governor of Delaware was present, not to speak of the eminent men seated about the tables. While conceding that the *Press* had a good right to first place on most occasions, he assailed the Chair for honoring him with the opening of the post prandial feast for which, he insisted, he would be better prepared later on, and after he had heard the inspiriting and intoxicating voices of Dana, and Biggs, and Davis, and Roberts, and such of the ladies as he had reason to believe were to grace the occasion by their eloquence, as they had already done by their presence, their grace, and those charms which had ever made women loved and revered among men.

He conceded that he had not before heard of the *Press* being first toasted at a public banquet. It was usual to toast the press after every one else had been called but the "ladies." He wondered at the courage,

or rather, the audacity of the Chair to thus call the *Press*, and set at naught all the traditions in this bewildering way. If he had his way, he would call "ladies" first of all.

He spoke in eloquent terms of the work of the Medico-Legal Society in harmonizing the two professions in this city, and dwelt in a felicitous and irresistibly humorous way on how much lawyers and judges needed such influences, and of the benefit to the medical profession received from the society.

He complimented the Chairman on his relation to that society and those labors.

He dwelt at length and with eloquence upon the meritorious work of the Congress that had just closed its labors, and spoke of the influence such gatherings must have on the advance of a science so sadly neglected.

He paid a graceful tribute to the legal profession, and the influence it exercised on the civilization of a people, but did not fail to point the shafts of his satire upon its members who fell short of the high standard he insisted upon for the Bar.

To the medical profession, Mr. Howard was not quite as kind or complimentary, but he believed that the mission of the physician was high, and he hoped to see the standard of medical education advanced, and the day come when the doctors would fight out their battles under the Marquis of Queensbury rules, and give no blows below the belt.

Mr. Howard is one of the most graceful and winning speakers after dinner, upon the New York press. He was never in better form, never more eloquent, more witty, or more enchanting in manner or substance. It is a source of regret that we are unable to give his speech as he uttered it. It will not soon be forgotten by those who were present.

Chairman Bell.—Ladies and gentlemen, I hardly dare tell that at a recent session of the Executive Committee of the Medico-Legal Society, whose portraits have been produced by the wonderful genius, Theodore Wuest, and adorns our banquet hall this evening, it was decided, by the bare majority of one, the speaker, I think, casting the controlling vote, that Mr. Howard, who has addressed you, should be allowed to have his say first at this banquet in honor of the press. (Applause.)

But, turning from this levity; you know the struggle that has been going on in this society to extend its membership into all the States of the Union, and that Delaware was one of the first American States to respond and be represented in the Medico Legal Congress. Whatever may be said of Delaware, either in censure or praise; whatever may be said of its care of the insane, of its whipping post, of its laws in regard to the legal age of consent in girls, there is a man at the helm of the State of Delaware whose heart is on the right side, who was born to be one of the best advocates and exponents of medical jurisprudence in this country. I wish to propose here that Governor Biggs be made an active member of the Medico-Legal Society. It is all nonsense making him an honorary member, and it is not the thing to make him a corresponding member. He is one of the most active persons in the State of Delaware, and if we want to accomplish anything in that State we must have him with us, and if there be no objection I now move that he be elected an active member of the Medico-Legal Society and of the Congress. The Chair hears no objection, and the Secretary reports that he has been unanimously elected. (Applause.)

I want to introduce to you a man, for whom I have the greatest personal respect; that magnificent feature

of our Centennial Celebration, who, in passing up the Fifth Avenue in that wonderful procession received, I think, more attention than was bestowed on any Governor from any other State, who honors our Congress and our banquet by coming from the capitol of his State to-day to be present at this banquet, and give his assent to this superb movement we are making to bring medical jurisprudence into its proper relation with judicial administration in the American States. I introduce to you Gov. Biggs, of Delaware.

Three cheers were proposed and given in honor of Governor Biggs.

GOVERNOR BIGGS.

Mr. President, Ladies and Gentlemen: Such an eulogy, emanating from such a distinguished man as Clark Bell, of New York, is enough to take a modest man from his feet. When he spoke about my State; when he referred to her whipping post and to other laws which we have upon our statute books, I felt not at all embarrassed, because we have no penitentiary in the State of Delaware. (Applause.) But we have a whipping post, a better penitentiary than was ever instituted in any State. It is established by a law which was passed by our ancestors, and which we adhere to. No man who respects the law will ever be brought to the whipping post, and in honor of the Anglo-Saxon race I must say the record shows that no white man was ever brought to the whipping post in Delaware a second time. He leaves the State and emigrates to some other State or Territory. (Laughter.)

I have no doubt that my distinguished friend upon the right, (Mr. Howard, of the press), who has entertained us so eloquently, will, in the next banquet that takes place in New York, assert that the guilty man has come

from the State of Delaware. Thank God there never was a white man whipped a second time in my State.

When the colored people were made voters in 1870, I confess, my State did not show very well, because of the want of education. We never had admitted the colored people to our schools. With all respect to the lady on my right, (Dr. Moshier), who said I must take care how I speak of Massachusetts, as she was two-thirds Yankee, I will say that I was given a book on Massachusetts when in Congress, by Mr. Hooper, who said, "I want you to read it." It was as large as a Bible, but I read it. It was the Annual Report of the State Constables to the Legislature of Massachusetts, that good old "Bay State" of Massachusetts, and in it were reported 1,900 crimes committed in one year. My friend, the doctor, shakes her head, but smiles, and I know she will not be angry at the truth. I might mention some of the crimes committed in that intellectual State of Massachusetts, such as defacing tombstones, stealing chickens on Sunday, refusing to pay your railroad fare, and found selling wood below measure, etc. I could read no more, it was enough to make one wish we had them in Delaware for correction at the whipping post. There are no such crimes committed in the little State of Delaware. It is a most salutary law in its work, and protective operation. Let any man come to my State and obey the law, and he will never get to the whipping post. Why, my dear sirs, the State of Delaware is living under a constitution that is fifty-three years old. It is styled by some "old-fogyish," with the honors paid the courts and all powers vested in the hands of the Executive. We have no veto power—the Executive only the pardoning and appointing power.

Now, Mr. President, I have been called up second, and

I want it so recorded. Of all the banquets I ever attended in the State of New York I never before had the exquisite pleasure of meeting the fair sex at the table. It shows, to my mind, that we are increasing in civilization, that we are progressing. Why, if a man was in the greatest mental agony, and were here to look upon the sweet smiles of the gentle sex now around us, he could speak, if he was a dumb man and say :

> "Without the smiles from partial beauty won,
> Say, what was man? A world without a sun."

Just imagine a world without a sun ; imagine a banquet in New York in the future without the ladies. Imagine Dana without his *Sun*. Why, Dana made the *Sun*. Mr. Dana's name will go down to posterity when this prattling tongue of mine has long since ceased, as the maker of that successful journalistic luminary.

I feel honored at your remembrance of the fact that our little State was the first to enter the Union, and it also was the only State that signed that Constitution unanimously—without a dissenting voice—and, by the grace of God, she will be the last to abandon it. (Applause.)

But, we are now in New York, and this is certainly a great city. There is no France without Paris; there is no England without London, and, disguise it as you may, there is no America without the City of New York. (Cheers.) New York is a credit to the nation and a credit to the world.

You have plenty of rich men here, and when they want a yacht built where do they go? To New York or Pennsylvania? No, sir. Mr. Vanderbilt and Mr. Gerry both came down to the State of Delaware, to the City of Wilmington, and we made their boats, which are the wonder and the astonishment of the world. The State

of Delaware is always ready with its skilled workmen and mechanics. You all know this, even to Mr. Roberts, who holds the purse strings at New York for the General Government, and Judge Davis, who sits there, looking as modest as when he was asked to take a seat between those two ladies. You have obeyed, sir, because you were within the jurisdiction of the Court. (Applause.)

Now, gentlemen and ladies, and ladies and gentlemen, I thank you kindly for this honor. When my friend Bell, on a previous occasion, sent an invitation for me to come over, I had official engagements, once or twice, and I could not come, but I made up my mind that if it was possible I was determined to come on this occasion, especially when I learned that ladies were to attend the banquet.

As to the professions represented here, the doctor is the first one we have in any kind of sickness, and he is the last man on God's earth whom we think of paying when we get well. I cannot say that about the lawyers. They have what they call a retainer. It is possible that in New York, where you have so much money, that the doctors are also the lucky ones, and may get a retainer. I do not know how that is; but one thing is certain, that this meeting will be published to the world, with Clark Bell as President of this banquet, and the International Medico-Legal Congress will live in history. I am a member of it, and the first thing will be to find out the name. We will infer that there are some fees connected with it. (Laughter.)

But Mr. Chas. A. Dana is gasping, and wondering when I will stop, while Judge Davis has his hand upon the table ready to spring up, boy-fashion.

Now, let me say to the professional men, lawyers and

doctors, that although I am not a professional man myself I love to come before professional gentlemen, and I love to come to a banquet where the ladies are so well represented. The State of Delaware, too, feels that she is being present at this meeting. I wish to say to Mr. Howard, on my right and Mr. Dana, on my left, that the State of Delaware feels honored at being represented by her chief executive on this occasion. It shows that New York respects her. New York, with a population of seven million people, gave Delaware, with less than two hundred thousand, the right of line on the great Centennial parade. While marching up Fifth Avenue I looked behind, and saw the great State of New York coming way down the street, behind the little State of Delaware. (Laughter, and great applause.)

President BELL: I propose here that you permit me to offer to this gallant son of the first original thirteen colonies to join the government of this country, that I give him, as a memento from this International Medico-Legal Congress, the shield of his State, of Delaware, which now adorns our banquet hall, which gives the date of its birth with the flags around it and the wreath, that we present them to Governor Biggs, of Delaware, as a memento of his coming from the capitol of his State to be present at the first Congress of this Society of Medico-Legal Jurisprudence in America. I hope that the vote to give him these flags, with the shield of his State, will be as unanimous as was the vote of his State to join in the original Constitution of the American States.

The vote was unanimous and enthusiastic.

President BELL: Governor Biggs, it is unanimously voted that the flags and shield of your State be presented to you.

Gov. Biggs: I thank you, ladies and gentlemen, for that very kind and unanimous vote. I will accept these mementoes of my visit, take them to my own State, the flags and the shield, and have them hung up at the Capitol of the State, and shall say to those who visit the Capitol: "See what New York has done for Delaware."

President Bell: I wish to introduce to you a man who is not only a close observer of his own profession, but who takes an interest in nearly all other worthy objects; a man who can see what our Society strives for and aims at in the future in the field of Medical Jurisprudence on the American continent, and its influence in the world. I have the pleasure, ladies and gentlemen, and I esteem it a very great honor, to introduce the Hon. Charles A. Dana. (Applause.)

MR. CHARLES A. DANA.

Mr. President, Ladies and Gentlemen: There is cause for sincere congratulation in the assembling of members of a body such as this. Whatever tends to increase the intelligence of man and woman, is a public improvement, and certainly there can be nothing more worthy of attention than the assembling of representatives of law and medicine in the cause of medical jurisprudence. There is nothing which better facilitates an increase of knowledge, and there is nothing that lawyers are so destitute of as knowledge of man. For these reasons, I think this is a meeting of great significance. It not only looks to an improvement of the public condition, but it looks to greater benefits in the science of medical jurisprudence of the law which regulates the relations of men to physicians, and of physicians to men, the law which regulates the science which governs life and death.

There is no individual in this country who has done so much to promote a public interest in medical juris

prudence as the president of this society, Mr. Clark Bell. He has labored in this cause without cessation and without despair for many years. I have watched his course, and I know the result of his efforts. I have seen it particularly in a large and handsome volume of the Transactions of the Medico-Legal Society, which has lately been published, and which I have read with the greatest interest and attention, not only for the scientific knowledge that it sets forth, but for the hope it gives of far better things for the future.

Ladies and gentlemen, I think that while compliments are being passed around, and we have had the eloquence of Mr. Howard and Governor Biggs on this subject, we ought to pay some attention to this society and its president, and I beg, therefore, to offer the sentiment: Health, long life, prosperity and a perpetual increase of appreciation for Clark Bell. (Applause.) It was drank with all the honors, and Mr. Bell was called upon to respond.

President BELL: Ladies and gentlemen, there can be no higher praise or greater compliment than these kind words from Mr. Dana, but I must not be betrayed into saying anything personal to myself. I beg to call your attention to what necessarily lays very closely to the subject of the advancement of science, and that is the question of finance. The help of these men of money and money-bags is very essential; without them we can accomplish nothing. They underlie all the successes in journalism, in railroads, in commerce, the arts, the development of our country and the other great achievements of the time.

It is our good fortune to have with us to-night the man who carries the purse-strings of the nation in our city, who has come to New York to guard the money

vaults of the national treasure. Before I let loose upon you this man, who has won great distinction in his native state for his high abilities, let me say that whatever he may say against the advancement of medical jurisprudence in America, you must not be led astray by his eloquence from that line we are all pursuing.

Hon. Ellis H. Roberts, ladies and gentlemen, needs no introduction in his own State of New York, or in the city of New York, which is to be his home in the immediate future. (Cheers.)

HON. ELLIS H. ROBERTS.

It tends to make a man modest, if he is not modest already, to be told that the sole reason why he is called on an occasion like this is because he is to look out for Uncle Sam's loose change in the city of New York.

I esteem it a privilege, ladies and gentlemen, to be permitted to look in upon you, and see how perfectly in accord high thoughts are with very good living. Although the pressure of my public duties did not permit me to be present at the sessions of your Congress, I have been greatly interested in the programme of your exercises, and have tried to follow the line of your studies.

I do not know, Mr. President, whether the chronicles of your society go back to the original medico-legal meeting or not. If I read aright, that first meeting

"brought death into the world, and all our woe."

There a subtle personage argued that law may be defied with safety. A banquet followed when the fruit of the tree of life was eaten, and woman presided at the feast. The contrast with your Congress marks the whole march of civilization, for your discussions seek to discover and apply law, and to enforce its obligations.

So, if my memory of Homer is not at fault, he reports certain medico-legal discussions on high Olympus, where goddesses, as well as gods argued the fate of men and states, of Hector and Paris, of the brass-clad chiefs of Greece and Troy. But I question whether your congress would accept the doctrines of equity and morality set forth in those divine assemblies.

Now, whatever may be the relation of those preliminary meetings to this Congress, seriously, it becomes us to rejoice at the alliance of law and medical science, and to that specialization which has done so much to make our century what it is. The division of labor which has wrought wonders in mechanism, may, by the special studies of gifted men, in other spheres develop mastery and bear rich fruit. By such studies you are working upon the grave questions where medical science comes into intimate relations with civil law, and where the state is concerned with medical cases. Let me congratulate the Congress on the great and high purpose which it has exhibited, and express the fervent hope, as my distinguished friend, Mr. Dana, has suggested, that this is but the beginning of a work, which is to go on more and better, so long, certainly, as the life of our good friend and president, Mr. Clark Bell, shall continue.

Let me thank you again, Mr. President, for the compliments you have paid me, which I must consider due to your good nature, rather than any merit on my part.

PRESIDENT BELL.

Ladies and Gentlemen: It is impossible for any one to withstand the praise which your chairman has received from the speakers upon the question of women. It is a fact that this society has led the van in the movement

of allowing women to be present at their general public banquets, which had not heretofore been considered quite the thing in this great metropolitan city.

But we have dared to attempt it, and we have received very high endorsement, and I highly appreciate the endorsement of these distinguished men regarding this departure which the Medico-Legal Society has made. The Chair has long felt that this was the great essential to a complete and perfect banquet—the presence of women. I am about to pronounce the name of a lady who has been chosen by her sex in a society in this city whose objects are to promote the usefulness of woman, and to bring into public recognition her rights and her abilities—her genius and her talent. You will, I know, thank me from the bottom of your hearts when she sits down, for having given you an opportunity to listen to that gifted woman who has been selected by Sorosis to be its president. I have the honor, and it is a pleasure, to introduce to you Mrs. Clymer, President of Sorosis.

MRS. CLYMER.

Mr. President, Ladies and Gentlemen : You may not be aware that your worthy president is versed in the science of law and the science of medicine, but is also a student of the occult sciences. He brought me here this evening by pronouncing the magic word "Sorosis." I am charged to bring here the good will and blessings of Sorosis. I have had the pleasure of attending a number of sessions of the Medico-Legal Congress, and heard many of the papers and discussions, which have led me to believe that this society is worthy of its blessings.

In the first place, men and women have equal rights in that society, and I believe the whole tendency of the society is for the amelioration of the condition of man-

kind, although they do not pretend to be either philanthropists or humanitarians, but simply call themselves a scientific society. Therefore, I feel that I have only to say that, being worthy of these blessings, the blessings are yours, and will continue to be yours as long as you continue in this course.

Mr. BELL: After thoughts of women we naturally give our thoughts to music. Will Mr. Kelly be kind enough to give us some idea of the exhilaration which music gives to the human soul? Let it be a psychological study, from a medico-legal standpoint, Mr. Kelly, and let me ask you to throw into this production all those gifts with which your friends believe you to have been inspired.

Let me, ladies and gentlemen, introduce to you a gentleman whom that great and high authority, Mr. Dudley Buck, stated to me on a recent occasion that he considered to be one of the foremost men of musical genius and resource, of our day.

Mr. Edgar S. Kelly played selections upon the piano, assisted by that talented artist, Mr. L. W. C. Goerck, upon the violin.

President BELL: Ladies and gentlemen, I shall now introduce to you a name pronounced early in the evening —a name that has had very much to do with what little success has been attributed to your Chairman in advancing the work of medical jurisprudence in this country, and I believe its influence in the world. From the beginning, from the outset, there has been no man in my profession in this City of New York, who has done more to encourage me, to sustain me, to hold up my hands in the advancement of forensic medicine in this city, than the name I am about to pronounce to you. This gentleman, who has aided by his presence, by his voice and

his influence the success which those of you who have been present at the sessions of the International Medico-Legal Congress, know has been obtained; an honorary member of the Medico-Legal Society, a warm and active member in all those things which have helped to accomplish these results, which have given it prominence, not only in our country, but the civilized world. Ladies and gentlemen, let me introduce to you a man whom in this city should need no introduction from any one, the Hon. Ex-Chief Justice Noah Davis. (Cheers.)

HON. EX-JUDGE NOAH DAVIS.

Ladies and Gentlemen: I should feel myself intruding if I occupied your time many minutes. We are now carrying this banquet into to-morrow. It is already beyond the day on which we commenced it, and, therefore, you must excuse me from making any extended remarks.

I have felt an interest, as Mr. Bell says, in the result of the movement in which he has taken so great a part in the last few years. For in my judgment, nothing is more important to the highest and best interests of humanity, than the progress of the art of medicine which is the art of curing, or relieving the ills which inflict mankind. All other professions are important in their place. I respect them all, but above all others, I have no hesitancy in placing the medical profession, as foremost in its benefits to mankind, and in its blessed influence upon the welfare of mankind. The good man who devotes his life to the curing of the ills and the alleviation of the miseries, mental and bodily, of his fellow men comes nearest, in my judgment, to that great example of human perfection while on earth, Jesus of Nazareth, who "went about healing the sick."

I know that there are physicians, as there are lawyers, and as there are clergymen, who do no honor to their profession. But the followers of the medical profession especially, have devoted their lives to the noblest and grandest of duties, and under all circumstances, I feel that a greater tribute is due them of respect, admiration and esteem:

And, now, I shall not take your time but another moment.

I mean what I say when I declare that the man who sits himself down to study and make discoveries in medical science, a man like my friend, Dr. Peet, for instance, who has devoted his life to a specialty, until he is known to-day throughout this country and the world as one who has given hearing to the deaf and speech to the dumb, and who now seats himself at this banquet by the side of that charming woman, his wife, who, though her ears are closed forever, has, by the aid of his nimble fingers, heard every speech that has fallen from the lips of those who have spoken, her countenance showing her full appreciation of the subjects discussed. A man who can accomplish what he has done in his high office, deserves not only the commendation of those who know him on earth, but the commendation of the angels in Heaven. (Applause.)

Yes, and this is true of every good physician who has devoted himself to a specialty, and accomplished like results. I could mention numerous instances, but you need not be detained by the attempt.

I am glad that this Congress has been in session. I am glad that it has called together so many attendants, and still more that it has called forth from the able doctors of this land and foreign lands so many valuable papers containing valuable information and knowledge,

which will appear in your records, not only to the advantage of our own country, but to the world at large. You have made a record in this Congress which will long stand to its credit. Many an idea has fallen that will appear in the papers to be printed, and which, like good seed, will bring forth good fruit.

Now that you are about to separate after this excellent banquet, I wish also to tender you my congratulations upon what I believe to be a valuable step, to-wit, the introduction into your Congress of a large number of intelligent ladies, who are desirous to tread with equal step by the side of the other sex in aiding the advance of medical knowledge and science. God bless and aid them. (Applause.) I have favored, I am glad to be able to say, from my earliest manhood, with whatever influence I have had, the establishment and encouragement of the female physician. I believe God has endowed woman with those qualities that make her in many respects, and especially for her own sex, and for childhood, quite equal to man in the capacity of alleviating the sufferings of illness and restoring to health those upon whom she attends.

And while we, of course, have had our prejudices, while my profession has, I think, with a spirit of odious monopoly, excluded women from the practice of law whenever she desired to enter upon it, and while the pulpit has largely been closed to her, a far greater hardship has been to exclude her from the devotion of her natural capacities to the cure of human ills.

The childhood and womanhood of the world are entitled to the tender administrations of her hands, and when woman becomes the trained and educated doctor, she will, I believe, soon vindicate her right not merely to be a member of the noblest profession, but also to

the respect and support of the entire community. (Applause.) God bless every woman who has the courage to enter upon such a profession, and the perseverance to pursue it, and may God give her the triumph that shall be her due. (Applause.)

President BELL: Let us hear a word of advice and encouragement from one of the leading physicians of New Jersey. These Jersey men, no matter what the gifted son of Delaware may say from his exhalted gubernatorial position, are near to us; there is only this little Hudson River between us; they come to us, and they punish offenders over there in their own way. But we have had at our Congress no more attentive listener, no more enthusiastic member, than Dr. Quimby. We have corralled him here, we have detained him here, and if we can get Dr. Quimby to give us a few of those ideas which have made him so successful in practice in his own city and state, if he can give us some of these by way of encouragement and help, it will certainly prove very interesting and valuable.

DR. I. N. QUIMBY.

Mr. President: I think it is very unfair to treat a foreigner in this way. This is the first intimation I have had that I was to be called upon to make an address. The President deserves a little of that Jersey justice to which he has just alluded, and I warn you, ladies and gentlemen, that you must take care that he does not cross the Hudson, for if he does, we will apply a little of the blue law to him, and your society will be minus a president. He certainly deserves punishment for asking me at this late hour in the evening, and without a moment's preparation, to make remarks, after all the eloquence to which you have just listened.

The bewitching smiles and the instructive conversation of two ladies, one on my right hand and one on my left, have so fixed and charmed me that it *has* been impossible for me to leave, as our president intimates. I have been wonderfully edified by the speeches of the evening, especially by the eloquence of the first speaker, Mr. Howard, which has so enthused me as to almost deprive me of my equilibrium. I have also been much edified and instructed by the venerable and distinguished editor of The *Sun*, which "shines for all." I must confess I feel a little excited after hearing the distinguished Governor of Delaware say that his State was the first to sign the Declaration of Independence, because I have an idea that New Jersey was the first, or ought to have been the first to sign that immortal instrument. However, as Delaware is the smaller of the States, I'll willingly yield, with a Jersey man's accustomed gallantry, all the colors and the honors.

I understand that you have all been invited to visit our goodly land of Jersey to-morrow, for the purpose of inspecting the insane asylum at Morris Plains, and I have no doubt all will be interested, especially the president, as he is making an especial study of that class of subjects. I hope all the members will avail themselves of this opportunity of visiting and inspecting this mammoth institution, which is in a somewhat obscure place, where it never should have been located. It was not put there through the advice and aid of medical men, but rather by assemblymen, senators, politicians and lawyers, who often vote and act from financial rather than from scientific or humanitarian standpoints, detrimental alike to patients and physicians.

I do not care to animadvert upon or criticise the legal profession, but I hope I may be pardoned when I say

that you will find the lawyer, when he emerges from the bar to our legislative halls, and becomes a statesman, as is quite frequently the case, the promoter or author of many statutes in which he is wont to eloquently say that equal and exact justice must be meted out to all. But now, Mr. President, ladies and gentlemen, I wish to call your attention to what seems to the doctor an anomaly or a strange inconsistency. (Of course, my remarks will not apply to any of the members of the legal profession present.) It is not an uncommon thing to find the same lawyer, after he has doffed his robes of statesmanship and resumed his practice before the bench, the court and the jury, using his power, acumen and eloquence with many cunning devices to pervert and make void the very law of which he may have been the author. This attempt to make the same law apply to the innocent and the guilty alike is like attempting to make the same glove fit the beautiful and symmetrical hand equally with the hand of disease and deformity.

This, ladies and gentlemen, is an herculean task, and often places the lawyer in an unenviable and contradictory position—a position which sometimes proves disastrous to counsel and client. But this commingling of lawyers and doctors in this American International Congress of Medical Jurisprudence is beautiful, valuable and instructive. We learn much from the legal profession, and I hope the lawyers can learn something from the physicians, so that each may be benefited and elevated to a higher plane of Christian civilization.

There is some reason to believe that Egypt was the first country in which the art of medicine was to any degree successfully cultivated in civilized life, and that the priest and the physician were one and the same person. It might also be remembered with profit that the phy-

sician at that time refused to soil his divine calling by charging a fee, but trusted wholly to a *honorarium.* Thus, you see, Mr. President, ladies and gentlemen, that our noble calling started off on an elevated plane. I sometimes become pessimistic because there is so much "sounding brass and tinkling cymbal" in our profession, and ask myself are we (the medical profession) degenerating into a sort of trades-union, seeking to deplete the purses rather than to prolong the lives and health of our patients? But after the splendid eulogy of the medical profession by Judge Noah Davis, I feel with him that the profession is one of momentous import—first at the portal of life, last at the chamber of death. Not only is the medical profession of vital importance to the human race, but it is rapidly advancing in its application of remedies to disease and in its scientific attainments, and could all the medical and medico-legal societies be marshaled and led by such a matchless, faithful, patient and indefatigable genius as Clark Bell, we would soon attain that higher plane where "divinity shapes our ends" in the treatment of a suffering humanity.

The Medical Profession was responded to by Dr. Eliza M. Moshier, Dr. Frank H. Ingram and Dr. Lucy M. Hall.

The Bar, by Mr. Roger Foster and Mr. Ernest Dykeman. That lovely tenor voice, Mr. William Leggett, sang a song, and the company separated at a late hour after an evening of great enjoyment.

President: This, ladies and gentlemen, closes the first banquet of the International Medico-Legal Congress.

Saturday, June 8, 1889.

THE STATE ASYLUM AT MORRIS PLAINS, NEW JERSEY.

Saturday morning, June 8th, the delegates and their friends met at the depot of the Delaware, Lackawana & Western Railway, Hoboken, N. J., and proceeded by private car, furnished by the Board of Trustees, to the institution.

At Newark the train was boarded by Hon. Mr. Halsey, President of the Board of Trustees, his brother, and Dr. Green, of the Board, who accompanied the delegates throughout the visit. The visitors were received at the Asylum by Dr. Harris, physician in charge, and his corps of assistants, and the General Superintendent, all in full uniform, with all the honors. A brass band, composed with a single exception, of inmates, was playing on the lawn as the party reached the ground, the cars landing the passengers in the centre of the buildings. These buildings are all of stone, very magnificent and costly, and cover a great area. The wards and grounds were thoroughly inspected. A dinner was served at 2 o'clock P.M., at which Mr. Halsey presided. After the feast, Mr. Halsey made a short address of welcome. Mr Clark Bell responded for the Congress, and a vote of thanks was unanimously tendered the Board of Trustees, the physicians and officers for the hospitable reception.

This asylum is governed by a board of trustees and a general lay manager. The Medical Director and his staff have charge of the medical department only.

The day was spent in visiting the buildings and grounds, and the party returned in the afternoon highly delighted with the visit.

THE PRESS.

The thanks of the International Congress are due the public press for the cordial and staunch support given to the movement.

The New York *Herald* published daily accounts of the sessions, and has been the strong and steadfast friend of the movement to extend and advance scientific research in medical jurisprudence.

The New York *World* also published daily accounts of all the sessions, as did the New York *Sun*, the *Tribune*, the *Press*, the *Times*, the *Star*, *Staats Zeitung*, and indeed all the dailies.

Among the evening papers of this city thanks are especially due the *Mail and Express*, the *Graphic*, the *Commercial*, and the *Post*.

The Congress came at the heel of the great disaster at Johnstown, Pa., the details of which filled the newspapers, and crowded out a great deal of matter that would otherwise have appeared, but the generous aid and sympathy of the public press of the city of New York, and indeed of the country, has greatly added to the interest and, as we trust, to the usefulness of the Congress.

The Medical and Legal press, both at home and abroad, have been most kind, and the aid furnished the movements of the Medico-Legal Society in its efforts to advance the Science of Medical Jurisprudence, has been one of the most conspicuous factors in this work, which has added so much lustre and renown to the name of that body.

CRIMINAL RESPONSIBILITY IN NARCOMANIA.

By Norman Kerr, M.D., F.L.S.,

President of the Society for the Study of Inebriety; Corres. Mem. Medico-Legal Society; Chairman British Medical Association Inebriates' Legislation Committee; Fellow of the Medical Society of London.

In some countries, as in Germany, Italy or Switzerland, there is a difference in the penalties inflicted by the law for crimes committed in a state of inculpable, as distinguished from culpable, intoxication. In most countries, as in America, England and France, the law does not officially recognize such a distinction. There have been occasions when English judges have even gone so far as to declare, following the ruling of the Spartan lawgivers, that drunkenness is an aggravation of the criminal act, and ought to call down additional punishment.

But the comparatively recent revelation of medical scientific research, that there is often a diseased condition of the brain in individuals guilty of either a sudden and unexpected outrage of the laws of decency or morality (or of a continuance of such outrages), while affected by alcohol or some other anæsthetic, has not been without influence on the administrators of justice. Jurisprudence was constructed at a period when no abnormal physical state in inebriety was suspected, except, by perhaps a few rare scientific enquirers, who were far in advance of their day and generation. Scattered here and there in the annals of English criminal procedure are deliverances from the judicial bench, as well as verdicts, which attest the growing influence of the discoveries of pathology and physiology on the humaner, more

merciful and withal juster legal treatment of the diseased inebriate.

In one case, two men were going home from a public house drunk. It was believed that the one as a joke tried to rob the other. But the prisoner was held to have been under the delusion that he was attacked in earnest by a real thief, and though he killed his friend, was acquitted. The judge said that the accused had clearly acted under the impression that his life was in danger, and under these circumstances could not be held to be criminally responsible (Reg. v. Price, Maidstone Summer Assizes, 1846).

This ruling would cover a large number of accusations for capital and non-capital offences. It would include many crimes committed during an attack of delirium tremens, for example. All the injuries to persons inflicted by the alcoholic trembling deliriate., which have come under my notice have been the act of a person under the delusion that his life or liberty was at stake. He believed that some one was after him, was trying to rob, maim, imprison or kill him, and in his terror he violently assaulted his presumed assailant. In other cases, he has injured persons unintentionally by clutching at them or clinging to them in the acme of his fear.

On one occasion, at sea, I had a very narrow escape from strangulation at the hands of a man suffering from delirium tremens. As I was about to leave his cabin, he was so afraid of my leaving him that he, while my attention was diverted from him for a second, had my trachea compressed by one arm in an iron grip of despair and frenzy (I being jammed up in a corner) with his other hand rigid on the door handle. I was helpless and voiceless. Nothing saved me from impending death but the being able to control him by my look,

with the consequent relaxation of his grasp, when I at once opened the door.

There have been a number of acquittals in charges of murder during delirium tremens. One of the most notable of these was the case of Reg. v. Burns (Liverpool Summer Assizes, 1865). The accused had murdered his wife. After the commission of this deed he appeared quite calm, and stated that he knew what he had done. His reason for killing his wife was that she was in league with men concealed in the walls. The jury acquitted the prisoner, on the ground laid down by Baron Bramwell that, though the accused might have known that the act was killing and was wrong, he was laboring under a delusion which led him to suppose that this delusion, if true, would have justified his action.

Another person was acquitted of feloniously wounding two individuals, on the plea that he was under the impression (from delirium tremens) that his house was being broken into (*Reg. v. Chaplin*, Warwick Assizes, November, 1878).

Yet, under almost similar circumstances, the accused have been found guilty, as in the following case. One man killed his friend, both being drunk, under the delusion that his friend was someone else, who was attacking him (*Reg. v. Paterson*, Norfolk Dent Assizes, 1840).

Mr. Justice Manistry, in *Reg. v. McGowan* (Manch. Assizes, Oct., 1878), where a man was found guilty of murdering his wife, though the medical evidence was to the effect that he was laboring under temporary disease of the brain from excessive drinking, ruled that disease produced by one's own act, such as delirium tremens, was no excuse unless the disease became permanent.

On the whole, though the plea has in some cases been unavailing to avert condemnation, there has of late

years been an increasing disposition in both judge and jury to accept a delusion of delirium tremens as a valid ground of acquittal. This is undoubtedly a step in the right direction. In some cases, the accused may not be wholly unconscious of the nature of the act, or of the difference between right and wrong; but he is beyond his own control, and is powerless to resist the dominating homicidal or suicidal impulse even in this partial consciousness of his actions. This delirium is as pronounced a disease (however short lived) of the brain, as is the delirium of typhus or typhoid fever. There ought to be no more criminal responsibility in the one disease than in either of the others.

It seems to me that on this point most legal and medical experts will be agreed. A uniform ruling to this effect would be an enormous gain to the successful administration of our criminal law. No drinker desires or intends to have delirium tremens. This disease (a leading characteristic of which is abject terror) overtakes him and comes upon him unawares.

To only one more point of medico-legal interest will I allude, viz: To the desirability, in fact the necessity, if justice is to be done, of an inquiry into the health-history of the accused. Though I treat specially of criminal cases complicated with inebriety, this procedure would often be judicious when there is no narcotic complication.

A sober, sedate, conscientious and well-living man or woman suddenly commits some gross breach of decency or order, is guilty say, of indecent conduct or of theft, without an apparent motive. In not a few cases which I have seen (in some of these cases no criminal proceedings were taken, in others there was a conviction or a reprimand), the immoral act, the theft, or the unex-

pected drunken outbreak, proved to be the first symptom of paralysis of the brain. What a terrible blunder to punish such a person as an ordinary criminal! The disgrace, the prison surroundings, the jail curriculum, have degraded the *morale*, often made a confirmed criminal of the convicted, and accelerated the paralytic march to the grave, the existence of an underlying disease having never been suspected till the incurable stage had been reached.

Such a neglect to inquire into the past health of the accused has often been as dishonoring to law and as costly a mistake to the community, as it has been fatal to the individual. A more enlightened procedure would have detected and recognized the presence of brain disorder in a considerable proportion of cases. The result would have been that though there would have been fewer convictions for crime, many persons would have been preserved from a criminal career, the heavy expenses incurred for not a few habitual criminals would have been saved, a large amount of brain disease might in its earlier and more curable stages have been cured, and quite a host of useful lives might have been restored to the community, while the dignity, power and influence of the law would have been greatly enhanced.

All these considerations apply with added force to the urgent need for an elucidation of the HEREDITY of the accused. Especially where inebriety is present should the family history be sought out. There are many individuals so handicapped, so permeated with the alcoholic or other inebriate inheritance transmitted from their predecessors, that the slightest sip on any pretence of an alcoholic intoxicant is apt to precipitate them into intoxication, with the risk of *incontinently and not of their own intent* being guilty of some criminal offence while

under the influence of the anæsthetic. There are others born with a brain so abnormal that the drink-impulse or the drink-crave is apt to be developed by any extraordinary disturbance or exhaustion of their nerve system. There are still others whose moral control is so deficient from birth that only with the greatest difficulty can they resist temptations from without or morbid impulses from within.

I am glad to be able to adduce a recent deliverance from the English bench in illustration of the importance of giving due consideration to heredity, in a case with inebriate complication. (*Reg. v.* Mountain, Leeds Assizes, 1888.)

A single man, aged 34, was tried for murdering his mother with prolonged violence, in the presence of a terrified domestic whom he had locked up in the room with them all night. He had suffered from delirium tremens about five years before, and for the last year had been subject to fits of excitement, and to delusions as to his life being threatened. He persisted in the statement that the victim was not his mother. One medical witness testified that at the time when the deed was done the perpetrator was suffering from *delirium tremens*, the other that the illness was *mania a potu*. Evidence was given showing an insane heredity. The judge, Baron Pollock, said that though no man could be excused on the mere plea that he had reduced himself to a want of reason by drinking, there were other circumstances here. One was that through hereditary influence the accused's infirmity and mental deterioration possibly did largely account for the criminal act. Another circumstance was whether, apart from drinking, the man was the subject of delusional insanity. The judge very wisely met the objection that if the prisoner had been an abstainer from alcoholic drink, he would not have been guilty of matri-

cide ; that as a certain amount of alcohol with his predisposition, made him a murderer, the accused should not have taken the little drop that upset his reason. Baron Pollock replied that the last man to know his own weakness is he who has a weak mind ; that such an one can not argue as doctors argue for him. The learned judge charged that if at the time when the murder was committed (though the accused had been a drunkard and had had delirium tremens) he had taken only such a quantity of liquor as an ordinary man could take without upsetting his reason ; and that the insane predisposition was the main factor, although the drinking of a small amount of alcohol was a contributary cause, the plea of irresponsibility, on the ground of insanity, was good. Happily, the jury returned a verdict in accordance with the charge of the judge.

In insanity it is now generally conceded that there is a lesion of the brain, though this cannot always be detected on a *post mortem* examination. There is now as much evidence to show that there is a brain lesion in inebriety, that diseased condition which I have ventured to call narcomania (a mania for intoxication by any anæsthetic narcotic). In acute mania, as in delirium tremens, this lesion is usually quickly repaired. In some forms of mental unsoundness and of narcomania, this lesion is so persistent that a prolonged course of treatment is required, while in a sensible proportion of cases, the lesion is practically irreparable.

In the interests of justice as well as in fairness to the accused, in all cases of alleged criminal offences committed either while under the influence of an alcoholic or other anæsthetic, or by a known inebriate in a non-narcotic interval, there ought to be a skilled inquiry into the previous health-history and heredity of the panel at the bar.

SEPARATE HOSPITALS FOR INSANE CONVICTS.

By Clark Bell, Esq.
President of the Medico-Legal Society of New York.

While most alienists and legislators agree that the defenceless insane, should not be subjected to contact with those insane who have committed crimes, or with criminals who have become insane while serving sentence, there seems in the smaller states an insurmountable difficulty, in the way of erecting hospitals for the class called "Criminal Insane."

It is an outrage to compel an insane person to associate with convicts, sane or insane, and none feel this more deeply than the insane themselves, not even excepting their immediate friends.

This offence against the insane, by the states or authorities who commit it, is all the more indefensible because of the utter defencelessness of the insane themselves, even to protest against it. They have no organ, and no ear hears their voice.

Among all the most miserable of the human race, even under the most favorable conditions, there are no greater unfortunates than the hopelessly insane.

The Earl of Sheftesbury, after nearly half a century of experience with British asylums, public and private, broader and wider than any living man of his day, or of our century, declared his unwillingness to trust even the relatives of the insane, with the poor duty of visiting them in their affliction, and asked the English Parliament to make visitation by relatives compulsory by law.

Neglect, want of proper care and treatment, brutal attendants, want of proper sanitary precautions, cold, insufficient clothing, solitary confinement, imprisonment, restraint in all its forms, are ills which legislators can charge to the account, neglect or misconduct of the officials or superintendents in charge of asylums, their assistants and employees; but forcing the innocent insane to consort with convicts, is a crime of which the state that suffers it is guilty, and for which legislators and not medical superintendents, should be held responsible

RELIEF BY STATES.

How can this duty, which the State owes to its insane, be best discharged in a small State like Delaware or Rhode Island?

How can the offence and outrage perpetrated by the State, in committing the insane, called "criminal," to the State Asylum for the innocent insane, in States like New Hampshire and other of the lesser States be prevented and avoided?

These are the problems of the hour.

There were in 1880, 350 insane convicts confined in the various hospitals of the insane in the United States.

If it were true in any state that the number of insane called "criminals," was sufficient to warrant the construction of a small separate hospital for them, under a superintendent and assistants, that State would be wholly without excuse in not so doing.

Take the case of New Hampshire, which has only fourteen convicts committed either by order of the court, to the State Asylum, or by the Governor and council, from inmates of prisons, who became insane while serving sentence. It would not, perhaps, justify the erection of a costly building in that state for such a

small number, but a State like New Hampshire, who only contributes $6,000 per annum to the support of the State Asylum for the Insane, might well purchase or lease a small property in which to care for the insane of this class, that would not of course, be attended with very much expense, and at the same time meet the issue in an honorable way.

It would not cost that state or any state more to support in an institution, with proper care, twenty or thirty inmates with one physician, one assistant and three or four attendants, than it would the physician who maintains a private asylum for a much less number, at his own cost, who receives compensation therefor.

There is in our judgment no state that has even five or six of this class of insane, who can honorably justify itself in forcing the insane called "criminal" into the State Asylum with the innocent insane, upon any such a plea as that of the expense of maintaining so small an asylum.

When physicians competent for such a service can be found who will undertake to lease or furnish a suitable house for such a number, for a reasonable compensation, where can any pretence be reasonably or honorably maintained for the continuance of a system defended by none?

Even if there were force in the excuses, commonly presented by those officials responsible for the existing state of things in so many of the American States, there are, it seems to me, several remedies within the reach of legislative action.

1st. By the passage of laws in the states permitting the insane of this class from sister states to be received, by agreement, under such regulations and upon such terms, as would produce the desired result, and allow

the larger states to have these asylums, like New York and Michigan, to receive inmates from such states as had no asylums, at the expense of the state sending them, at a per capita rate.

2d. By two or more of the lesser states either uniting in the erection and maintenance of a suitable hospital for the wants and requirements of the states uniting in the expense, to be borne ratably or equally by each, and the government, management and supervision regulated by a board agreed upon by both, who would select the superintendents and employees.

3d. By one small state providing by treaty or arrangement for the care of its insane of this class, with another state, who either had such an asylum or proposed to erect one, and located so contiguously to each as to make a common use by the two, or more states, convenient to all, and to offer to each all the advantages of a large institution for the so-called "criminal insane."

RELIEF BY THE GENERAL GOVERNMENT.

Broadmoor Asylum, in England, reaches this class for that country, where the evil can be directly reached by the general government.

Cannot our general government reach also a solution of this question?

The government of the United States now maintains a national asylum for the insane in the District of Columbia.

The same authority exists for the construction by the general government, of a suitable asylum for the insane called "criminal" as for the innocent insane.

At the present moment there is confined in the Government Asylum for Insane at Washinton, John Daley, recently committed, who killed at Washington Joseph

C. G. Kennedy. He was committed by the Supreme Court of the District upon the verdict of a jury pronouncing him insane when he committed the homicide.

The District of Columbia is not, perhaps, suitable for such a purpose, as it is smaller than the lesser states, and has less in population than most if not all of the States. If, however, the general government should erect in the district a hospital for insane convicts, it would not only be within its general province and powers, but would be the simple, direct discharge of the same duty and obligation which rests upon the several States, in what the Government owes to the insane of the nation of this class; and the same responsibility rests upon Congress for the District that rests upon the legislatures of the states for their citizens.

If Congress, in establishing this hospital, should provide that insane convicts from any state or territory where no hospital for insane convicts was in existence, might be committed to the National Hospital, either by the courts at the trial, or by the authority of the governors upon such terms as should be just and equitable among the states—if it was felt that such a change should not be maintained at the expense of the general government—the problem might thus be immediately solved.

The case of Daley and similar cases occurring or likely to occur, brings this live question, with its responsibilities, upon our national government.

We hope that it will be met with promptness and that consideration which the importance of the subject demands.

The Government of the United States would doubtless add to the dignity and greatness of the nation by establishing on a scale equal to the establishment at Broad-

moor, England, a hospital for insane convicts, intended to provide for that class throughout the nation, on a plane equal and abreast with the civilization of the age, which would at once remove the existing evil, and erase from our states the stigma now resting upon those who commit their insane from motives of pretended economy to the state hospitals where the innocent insane are confined.

THE DISPOSITION TO BE MADE OF CRIMINAL LUNATICS.

W. W. Godding, M.D.
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In capital offences, given the act committed and the irresponsibility shown, what then? Three methods of disposal are open—to keep him, to hang him, to let him go. Undoubtedly hanging is the surest disposition that can be made of these witless homicides. The legal mind, with more faith than the medical mind in hemp as a remedial agent, seems to think there is a moral force in the gallows to deter the insane from crime. That hanging acts to prevent a recurrence of the offence in the individual case is evident, being final in its conclusions and not subject to revision. As an object lesson to other lunatics, its effect is absolutely *nil*. But the legal profession is not alone in advocating the execution of the insane. In crimes of great atrocity and in state cases, the public mind seems to experience a relief from the hanging of the lunatic, witness the executions of Riel and Guiteau. However thoughtful minds may regard it, the multitude have in all ages been found consenting to—nay, clamoring for—the death of the insane homicide. Physicians have been only too ready to join in the cry of "away with him," and a prominent medical advocate of this method in our day has argued that it is necessary that some lunatics should be slain like wild beasts for the protection of society against their ravages. A proposition false in its premises and monstrous in its ethics, that associated with the name of its author as a curiosity of the medical development of the

nineteenth century, will go down to posterity as showing the degree of evolution reached in the direction of morality and medical jurisprudence by one of the most versatile writers of the time. The execution of lunatics is not needed for the protection of society; it is not consonant with the civilization of the day, and under the enlightened rulings of Judges Somerville and Montgomery, it is taking its place with whips and cages and whirling chairs among the obsolescent methods of dealing with the insane.

While the method by hanging is faulty, that by letting him go is simply absurd. It is a "sowing of the wind to reap a whirlwind." The only form of the disease in which this disposal of the case is to be commended, is that transitory mania where the person is sane the moment before and the moment after, and insane only at the supreme moment of the shooting. Here a law higher than any code steps in to weigh the purity of the home against a libertine's life, and the community takes no thought to reconcile its verdict with the clinical observation of experts in mental disease, but only "to fit the punishment to the crime."

There remains the other disposal of the criminal lunatic, viz: to keep him; and this, in the light of all that is known of insanity, seems the proper thing to do. The community has a right to protection against the aimless blows that fall from maniac hands. The finding "not guilty by reason of insanity" of a person who has committed a capital offence should carry with it the presumption of continued insanity, and the forfeit of the personal liberty of the individual. For his confinement, something more than common law—some special legislation in each State—will be needed. The law in Massachusetts seems fairly to meet the requirements of the

case. It commits the person thus acquitted to one of the State lunatic hospitals for his natural life. He may be discharged therefrom by the Governor, by and with the advice and consent of the Council, when he is satisfied, after a hearing of the matter, that such person may be discharged without danger to others. It is the same authority that exercises the pardoning power in criminal cases. The community would be in little danger from premature discharge under such a law.

Shall such confinement be in the ordinary hospital for the insane? Hospital treatment at the present day tends toward greater liberty and absence of all restraint. It will not do to set back the hands on the dial of this progress by making the hospital a penitentiary, and, because you have there five whose insanity has been associated with crime, refuse to a hundred other insane, on whose lives there rests no blood stain, the widest liberty and that withdrawal of restraint which their condition permits. Yet, we cannot allow the five homicinal ones to escape into the community.

The difficuulty may be met either by providing a separate hospital for the criminal cases from all parts of the State, or, what seems to answer the purpose equally well, provide a distinct building within the grounds of each State hospital where the criminal class may be properly and securely cared for under that hospital's superintendent.

The provision already made at the Government Hospital, at Washington, D. C., will serve for illustration. Here a building entirely distinct, yet of easy access from the main hospital edifice has been provided for those convicts and criminals under United States laws, who have become insane. The building is named Howard Hall in honor of the philanthropist, Howard, who

know that the other was making an examination. Both of the doctors accepted my invitation and each separately made a careful examination, for which the Sheriff furnished every facility. They took, as they informed me, every step in their power to make the investigation complete, both in the prisoner's presence, and when he was not aware that he was observed.

After a few days each of them made a report to me in writing; one of them expressing a decided opinion that the prisoner was insane; the other not willing to give a decided opinion, but stating a strong conviction that the prisoner was feigning insanity and was not in fact insane. The latter was a physician of great experience, whom I had long known and in whom I had much confidence. These reports put me in such a dilemma that I sent for him and requested him to make a further examination to see whether he could reach a more definite result—one more satisfactory to himself. He kindly consented to do so, and was again afforded by the Sheriff every opportunity he desired.

In about a week longer he made his report personally to me; the substance of which was that he still remained in doubt; that there were many things in the conduct of the prisoner that strongly tended to show that he was feigning insanity, while there were some other things that seemed impossible to be feigned—that the upshot of his careful examination was a still stronger doubt as to the prisoner's real condition.

The result was of course, that I could not feel justified in proceeding to pronounce sentence. I therefore made an order under the provisions of the Statute then existing, directing the County Judge of Niagara County to summon a jury to try the question of the prisoner's

insanity, and report the verdict to the Court; and if the prisoner was found insane to take steps for his disposition as provided by the Statute; and I adjourned the Oyer and Terminer for a few weeks to await the result.

The County Judge proceeded to summon a jury and try the question. The result of the trial was a verdict that the prisoner was insane; and upon that verdict he was ordered to be taken to the Insane Asylum at Utica, to be kept while his insanity should continue, and then returned to the jail of Niagara for sentence. I was advised of the verdict, and the adjourned Oyer and Terminer was not held. Flynn was taken to the Asylum at Utica, then under the charge of the late Dr. Gray, well known as an eminent alienist.

It happened to me to hold the Oyer and Terminer of Niagara County in November, 1858. As soon as the Court was organized the Sheriff came to me saying that the prisoner Flynn had just been returned from the Utica Asylum with a certificate of Dr. Gray, that he was not insane, and was in condition to receive his sentence. He handed me also a personal note from Dr. Gray, in which he said that Flynn was not only not insane at that time, but had not been insane, and his previous condition was wholly feigned. The Sheriff also stated that Flynn's health appeared to be good; that there were no manifestations of anything different from entire sanity at that time, but he feared that he might if his sentence was delayed again give trouble by feigning insanity.

I directed the prisoner to be immediately brought into Court. He was at once brought in and arraigned for sentence. In answer to the inquiry why sentence of death should not be pronounced, he proceeded to give a detailed narrative of the transactions between him and

Glennon; of their partnership in business; of their quarrel and the dissolution of the firm, and of Glennon's conduct, as he claimed, in defrauding him of his share of the firm property; that on the morning of the day of the shooting he came over the river and bought the pistol and got the person who sold it to load it for him, not with the intention of killing Glennon, but to frighten him into doing him justice; that he was returning over the bridge with no expectation of meeting Glennon, but as he reached the middle of the bridge Glennon, "as ill luck would have it," suddenly appeared driving in a wagon across the bridge; that as soon as he saw it was Glennon he sprang and seized the horse by the head, and pointing the pistol between the horse's ears at Glennon he demanded a settlement. At that (he said) Glennon sprang out of his wagon and rushed at him and knocked him down with the butt end of his whip and jumping on him, seized him by the throat, and in the struggle the pistol went off and shot Glennon without any intention to shoot on his part, and, said he, "*there was no one there, Your Honor, but myself and Glennon and that horse; and would to God, Your Honor, that that horse was here to-day to testify to the facts.*"

When he had concluded his statement, (which might be thought somewhat incoherent in its conclusion if he were not an Irishman) the sentence was pronounced, and the prisoner remanded.

I immediately allowed a writ of error with a stay of proceedings to enable the case to be taken to the Court of Appeals upon the question of law. The proper steps were at once taken to present the case to the Court of last resort, the prisoner, of course, remaining in jail. The next Oyer and Terminer in Niagara County, which

was early in the following winter, I think, was also held by me, and I had no sooner taken my seat on the bench than the Sheriff again came to me for an order in Flynn's case. This time the order was one permitting the Sheriff to deliver the dead body of the prisoner to his relatives for burial. He had died the night before, a mere skeleton from starvation, and had been for some weeks a raving maniac, whose insanity no one could doubt; refusing food, clothing, and in every other way showing himself to be utterly demented. The order was made and the remains were taken away by friends for burial.

I have given this narrative of Flynn's case, not that I think it sheds any special light on the subject of insanity, but because it tends to show the uncertainity of opinions touching that disease, even when given by learned and honest doctors; and also, perhaps, that among the Eccentricities of Insanity may be the fact, that that terrible disease will sometimes avenge itself upon persons who for any reason successfully feign its existence. Whether Flynn's case may or not be one of that kind I leave to Alienists. After his conviction was affirmed by the General Term, and his sentence was ordered to be pronounced, and as the time for sentence drew near, knowing that it could not be pronounced upon a lunatic he, perhaps, set himself to work to feign insanity, and succeeded in his purpose for many months. He probably was advised that until his sentence was pronounced the grave question in his case could not be adjudicated by the Court of last resort, and therefore, he abandoned his pretended insanity to receive the sentence. Over this sentence he brooded in his cell till the horror of death by hanging filled his mind with recollections of what he had said and done, and his success

while feigning insanity, till those remembrances coiling like serpents around his brain became realities that led him to the fearful mania of which he died. Whether this may be so or not I leave to scientists. But the moral of my story is this: It is never safe successfully to feign insanity since the act of such feigning may open a door through which the appalling fate of real insanity may triumphantly enter.

EXPERT TESTIMONY IN HOMICIDE CASES.

By Judge William H. Francis, of Bismarck, Dakota.

Nothing, mundane, so closely and universally deals with human action as the Law, the recognized rule of action.

Written and unwritten, it reaches the various courses of man's numberless activities, having to do, however, with intent and conduct, and the state and effect, rather than with the origin, elements and substance, of mental and material forces.

In its practical and decisive operation it acts upon conditions, admitted or proved, which it has neither the power to create, the ability to destroy, nor the right to discard.

It takes its fulcra from all other systems of Science, and its application may be modified or settled by something in physics or metaphysics, in philosophy or in art.

The law is a ruler, a judge, an avenger; the utilizer of proof and not its begetter. It regulates the production of testimony, regards the nature and extent of evidence, determines what shall be the consequence of that which is shown to exist in fact or in reason, and the effect of showing the non-existence of something claimed as existing. It defines crime and commands what shall and shall not be done, but all known legal principles cannot locate a wound, discern its effect, or identify the perpetrator.

The punitive vitality of the law againt crime is

inoperative, its penalty dormant, without demonstration of its infraction.

This demonstration must be manifested to the law, itself, which only perceives it through the medium of testimony, the cause of the evidence that, in turn, yields the demonstration or proof.

Testimony, then, affirmative and negative, (in its comprehensive sense, the witness of sound reason, confession, writings, oral statements, documents, animate and inanimate objects) is the most potent factor in all cases.

Truth is the pure gold of testimony, and untruth the alloy that lessens or destroys its worth. The gold is the guileless refinement of the soul, the undissembled aspect of matter; the alloy is the craft of art, the product of evil. Man's justice is not the famed ideal, immortalized in blind-fold Themis calmly holding her impartial balance at equipoise, and in *its* defective scales, many times, alloy is weighed for pure gold.

Questions of vital import arise which the law is utterly unable to solve without the co-operation of another method of science that shall find out and elucidate the cause and nature of things, since their solution is not to be derived from any legal tenets, nor from the criterion of abstract, or prescribed, morality or right, but from some knowledge of material forces and the laws governing them, an inspection of substances and their real or seeming condition and the study of their source, essence, material and use; or, as in cases of insanity or mental disturbance, from a sentient consideration of the relation between mind and matter and, in certain states, the effect of the one upon the other, the manifestations of such effect and, if attainable, its direct or approximate cause.

The trial of one charged with murder arouses the greatest interest. And the right conclusion that a homicide is, or is not, one of the degrees of murder, or of manslaughter, or is, or is not, legally justifiable or excusable, in very many instances, depends, in whole or in part, upon evidence derived from some branch of Science, outside of the law, communicated through what is termed "expert testimony."

The nature and result of the wound or hurt; the position and surroundings of the parties and their bodily and mental state when it was inflicted; the exact or probable time of death after the injury; what might have caused the mortal harm, and what could not have produced it; the actual or remote cause of death; the fair inference from posture and appearance; the significance of scars and stains; the essential qualities and effect of drugs and potions; the mechanism, power and function of the physical organs; the phases of mental life and expression; the abnormal in mind and matter; these, and other things equally pertinent, require investigation and the law must have an auxiliary.

Hence we have the science of Medical Jurisprudence wherein law and medicine join as co-searchers, and natural and human laws hold instructive discourse. This is the arena of some of the most sublime achievements of intellectual and professional skill, acute perception, delicate poising and wielding of still more delicate elements. In it we become more familiar with the diverse grades of personal responsibility, the relation between cause and effect, and get information that enables us to be more just.

The criminal world has its law or force of gravity, and the depraved and vicious are drawn towards crime the centre of attraction. The material and physical incite,

tinge and fashion purpose and deed, and the highest crime may proceed from the lowest motive. A hungry stomach, a fiery circulation, a trinket, a purse, has made the hand do murder.

The true secret of lasting reform lies not in the number and rigor of penal laws, but in their intelligent and discriminating enactment and enforcement, in the light of growing comprehension of the constitution and tendencies of the race, and the multiplication and enlightened use of counteracting attractive forces. These forces must find the level of every-day human nature and permeate the substance of real life.

In Medical Jurisprudence, the fountain of most of the expert testimony effective in criminal cases, there is much that may be useful in advancing this reform.

Belief, at least in matters secular, springs more from testimony than from faith. Actual sight or touch is more convincing to the common mind than the deduction of logic, though the latter is frequently the more correct informer. Sight and touch may be deceived, logic may blunder. Absolute certainty, the creature of unvarying law, is not an attribute of human testimony, yet mutual dependence is a fixed rule and the interchange of testimony a necessity in our transitory life, and hearsay testimony is the main prop of the credence of the world of men.

Each extends the horizon of his fellow. The illiterate, experienced in certain lines, instruct the most cultured, and one master, in science or art, furnishes evidence for millions.

But, in and out of court, human testimony, largely influenced by fear, favor, prejudice, affection, interest and compensation, is for the most part, imperfect, much of it erroneous, and some of it intentionally false.

In the material, moral and spiritual, our ideas of size and quality are extensively based upon observation and comparison, and grade or degree is significant. One rates low what another elevates, or his lens magnifies what that of the other diminishes.

The importance of testimony is measured by its effect, or the magnitude of what it establishes or casts down. The higher its grade, the more serious its applicability, the more baneful becomes any defect or falseness in it, and an expert witness in homicide (and in all) cases should be more than the peer of all others in rectitude and candor.

Expert testimony is above ordinary witness as trained scrutiny surpasses untaught casual sight, and skilled test mere notion.

To give to such testimony its fitting place and office, in a case, requires something more than readiness in applying the usual rules of evidence. Judges, presiding in homicide cases, very learned in the law, often inexpertly pass upon expert testimony and are unable to distinguish between true science and its adulteration, to the disadvantage of the commonwealth or the accused.

And it is worse with the jury to whom the testimony goes for final disposition. Few, in the ordinary walks of life, understand the plainest scientific principles, nevertheless jurymen, selected in a chance way, mostly from the body of the middle rank, are expected to comprehend and apply expert reasoning and testimony taxing the learning and experience of specialists, and there is too much reliance upon the entity and capacity of that vaunted "common sense" fondly, but mistakenly, ascribed by many to mankind in general and not always accompanying those serving as jurors.

With a life at stake, pivotal matters, profound and

abstruse, are submitted to minds promiscuously thrown together and untutored for the purpose, and not to a jury of experts. This may well be corrected.

The plan of inquisition and trial by jury, carefully preserved from innovation, like some ancient land-mark, has not taken the form and spirit of the general progress that is the outcome and glory of the years.

The ascertainment and elucidation of sciential principles, reliable analysis and synthesis with brain, instrument and crucible, convincing intellectual and manual operations and tests, and the correct appliance of legal principles to what is thus made known, commonly demand superior attainments and skill, and an error may be sin.

That errors occur does not argue the imperfection of Science, the failure or inadequacy of natural laws, the impotency of legal rules, but reveals the work of a sciolist and not a true artist. Doubt is near error, and in the bewilderment of the one we may readily fall into the other.

The doubt in experiment, and all scientific research, should be frankly avowed, regardless of sensitive pride, in order that it may become an ingredient in the mass of testimony that, sifted, winnowed, weighed and estimated, shall determine the absence or presence of that much talked of, and frequently wrongly conceived, "reasonable doubt," of guilt, which cannot be successfully defined or prescribed by one mind for another but must be revealed to each juror in and by the processes of his own inner consciousness.

No scene in a court of justice is more engaging than when, in a capital case, a competent and consistent disciple of Science, with plain words, using only the necessary technical terms, unfolds an underlying and

controlling principle, expounds some law or power in the economy of Nature, relates a marvellous feat in surgery or signal success in experiment, and lifts "the point in the case" out of the obscurity and shifting sands of doubt and sets it on a secure pedestal in transparent conspicuousness as *an established fact.*

On the other hand, in the "badgering" of witnesses, not legitimate cross-examination, the confusion of the expert, or what he says in irritation or anger, passes with many, for lack of knowledge and confession of uncertainty or mistake, and the most capable experts, champions of wisdom, vulnerable through temperament or some peculiar infirmity, are dazed, or knocked out of the case with a blow "below the belt."

There was more than a mental reservation when natural liberty gave way, in part, to the restraints and protection of society and government, and crimes, hydra-headed and multitudinous, constantly denote the survival of the pernicious sentiment that the individual is a sovereign and not a subject, and that his desires are the only limit to his sovereignty.

Even the law, being man's work, so far concedes this sovereignty as to promptly equip all accused of crime with mail and weapons, which the State must break before it can convict; and the tendency is to increase these defences, some of which assist crime and defeat justice.

The accused, if convicted, may have new trial or trials; but, once tried and acquitted, neither his life nor person can again be put in jeopardy for the offence, though the evidence of his guilt be undeniable or his own tongue glibly confess it.

In recent times some courts have still further stretched the doctrine of jeopardy, and we are fast approaching,

if, indeed, we have not already reached that state, in the rules and practice of jurisprudence, when the greater the crime the more numerous the avenues of legal escape, and the more difficult and uncertain the prosecution. The more law, the more crime.

How important, therefore, that all criminal trials, certainly when murder is alleged, should be as complete as possible, and that the testimony, on which guilt or innocence is to be predicated, should be clean and the best obtainable. The ripest experience should be placed in the witness-box as an expert, and the purest light of Science be freely turned upon the case. This is sometimes precluded by the impolitic parsimony of public officials and the jealousy creeping into the most lofty pursuits.

While the followers of Science, in its various departments, in beneficial emulation and controversy, are enlightening the world and extending the roll of enduring fame, scientific work, not impervious to some evils, does not always measure up to that standard of integrity and value which, from its very nature and purpose, it should attain. This is evident in expert testimony in judicial contests, and is marked in murder trials.

Man is inclined to credit that which seems to further his own ends or endorse his present hope or wish, and his conclusions are (unwittingly) influenced by causes intimately connected with his own interests and the welfare of those for whom he acts. The expert is not exempt from this tendency of our nature.

A sinuous evil arises from the zeal of the expert to make return for his fee, and discover or produce something that shall profit his side of the case.

Zeal, (Dryden's "blind conductor of the will"), blurs the eye that has been wont to see certain things clearly,

transforms the object, slights the rule, contracts or enlarges the deduction, alters, just a little, the color or texture at a critical moment, and the expert halts before he has reached the true mark, or leans over the limit, and accredits to Science less or more than its own; or, accepting apparently plausible but misleading indications, he remains ignorant of the certainty lying deeper. If this is not the general rule it cannot be said to be uncommon.

The zeal we have noted may generate design that shall dilute sincerity and taint performance. Error in the ruling of the Court can be excepted to and rectified. The error of an expert witness is not so easily found nor so surely reformed. That upon which the Court rules is of record, with the ruling, and open to full inspection. The opinion of the expert may be given from secret trial. He may be unfaithful to the conditions he finds, turn alchemist and give to base substance the show of the precious metal, be careless, vacillating or dishonest when he should be the most cautious, constant and upright, and the subtle forces he invokes or handles may not, perhaps cannot, testify against him, or, by reason of inability or the complications of the situation, the cross-examiner misses the clue that would give them voice.

In most homicide cases the result hinges upon experiment, the views of doctors founded upon fact or hypothesis, the disclosures of an autopsy, or other expert testimony, by which both guilt and innocence have been detected, the innocent pronounced guilty and the guilty innocent. It is not unusual for such testimony to be engendered by investigation, practical or theoretical, pursued without the essential knowledge or skill. This is deplorable when we reflect how often the best, even the sole proof lies hidden in the body of the deceased.

Undiscovered it is dumb and its relation to the homicide, perchance, unsuspected. When the educated hand of the surgeon uncovers it, or the chemist by some immutable authority brings it forth, it dominates the case.

The research and work of the expert, from which his testimony derives its intrinsic weight, should be exhaustive in scope and in detail. This forcefully applies to *post mortem* examinations as the ground-work of expert testimony in homicide cases.

In June, 1885, A and B, husband and wife, were tried before me, in my Judicial District, (the Sixth of Dakota) for murder in killing C. The body of C, in pants and shirt and wrapped in two blankets, was found August 2, 1884, face down, in the water of a prairie slough. The eyes hung from their sockets, there appeared to be a mark or bruise across the forehead, and also one extending from the right side of the chin backward to the base of the brain. A coroner's jury (without an autopsy) declared that C "came to his death by felonious means, by being struck a blow upon the back of his neck and across his forehead by some heavy club or substance," etc., and the remains were buried. Soon the body was exhumed and two physicians, making a partial examination to the extent of exposing the neck muscles, concluded that death had resulted from strangulation, and the corpse was once more interred.

One of the five counts, in the indictment for murder against A and B, charged strangulation, and, at the trial, the Territory, relying entirely upon that count, contended and presented testimony to show that A and B had murdered C by strangling him; and when the prosecution rested, it had made out a strong *prima facie* case.

Counsel, in opening the defence, admitted that A had

killed C, asserting that he had shot him in the head with a revolver in self-defence, and called the defendants in support of his assertion. Both defendants swore that, at night, while they with C were lying in a tent, C assaulted A with a knife and A, still recumbent, pushed C with his foot (C being on his knees) and simultaneously shot and killed him with a revolver which he (A) had drawn from under his pillow; that they carried the body, wrapped at it was found, to a secluded place off the trail, and threw it into the slough.

While the trial proceeded the body of C was again exhumed, the head removed and dissected, and in the brain was the small bullet which had entered through the opening of the ear, leaving no perceptible external trace.

The strangulation theory was thus demolished and the true means of death divulged.

This episode somewhat demoralized the prosecution and had its effect upon the jury, and A and B, who, had the first *post mortem* been a searching one, might have been convicted of murder, were found guilty of manslaughter in the first degree.

Then there is the sale of opinion to fit the case, the manufacture of testimony to order, the commerce in scientific perjury, by which, under the oft mis-applied doctrine of "the weight of evidence" (by courts and juries) verdicts are effected, wrong in principle and justice, while seemingly founded upon proof. At the very tribunal of justice, under cover of formal legal procedure, by so-called experts and by other means, truth has been prostituted and silenced. It is neither the duty nor the province of a lawyer to encourage or assist such a deed, but rather, whenever he may, to prevent it. Court, counsel and expert, concerning plaintiff and de-

*NOTES ON MEDICAL EXPERTISM IN THE OLD WORLD.**

By A. Wood Renton, Esq , of the London Bar.

From the pages of Calmeil and Du Saulle, one can almost reconstruct the medieval world into which the science of forensic medicine may be said to have been born. The various ranks of society were still held together by the old cement of feudalism, crumbling, indeed, yet firm enough to prevent any union between the strata which it separated, and exaggerating in its decay those opposite vices of tyranny and servility which it had ever tended to foster. In an age already enfeebled by a feudal constitution, the phenomena of demoniacal possession reappeared. Touched with the ignorance and the passion of superstition, medieval Europe arose, and sought to check the alarming sorties from the world beneath. Every class of society sent its representatives to the new crusade; every state contained within itself a complete apparatus for the detection and punishment of the wretches who were possessed with the devil—priests to instigate prosecutions, informers to forge evidence, officials to prosecute, judges to sentence, and executioners to burn. Now, the first recorded point of contact between law and medicine was in connection with those prosecutions for sorcery and witchcraft. Just as it was the duty of the theologian to provide a religious sanction for the fury of the populace

* Read before the International Medico-Legal Congress, New York, June, 1889, by Clark Bell Esq., on behalf of A. Wood Renton, Esq., Barrister at law, London.

and the cruelty of the judges, so the student of demonology, from the philosophical or the practical point of view, was expected to furnish a scientific apology for the prevailing panic. Sometimes, when I recall the wealth of imagination and of ignorance which the first scientific experts displayed alike in their writings and in their utterances, I am amazed at the assurance of those critics who carp at the inhumanity of the early tests of criminal responsibility in mental disease, and at the lawyers who are assumed to have devised them, and I could wish that the preliminary chapters in Calmeil were as widely known as the story of that judicial savage, who would have gathered all the witches of Burgundy together, and destroyed them at a blow.

In the short time, however, during which I shall have the honor of addressing you, I cannot hope to treat exhaustively the historical aspect of my present subject, nor will it be possible to survey the origin and growth of medical expertism upon the Continent of Europe. I propose to offer an answer to the following questions, of which the first possesses a speculative, and the second a practical importance:

1. What circumstances have given rise to, and have improved its present equivocal character upon *medical advocacy* in the United Kingdom?

2. What can be done to place the medical expert in a more satisfactory position in our courts of law?

1. Early English procedure seems to have been inquisitorial. The judge was regarded not as a *State arbiter* whose simple duty it was to hear and decide between the conflicting cases set up before him, but as a *State official* expected and required to institute independent investigations. While this conception of legal procedure prevailed, the position of the medical expert was,

naturally and in fact, that of an assessor to the courts of law; and, unless my memory fails me, there is evidence in the early State trials that in England, as on the Continent, the professional ancestors of Taylor and Christian shared the delicate functions of advising the legal tribunals with the apothecary and the midwife.

But civil and criminal procedure gradually became judicial in character. The judge ceased to exercise, if not to possess, those executive powers—the analogies to which are still theoretically inherent in the sheriffs of Scotland, and conformed to the sounder, and, except in England, more primitive type of an official arbitrator, whose judgment is based upon and confined to facts presented to him by the litigants or parties themselves. Now, the genesis of this new idea was logically followed by the exodus of the assessor from the bench to the witness-box. I have now shown how the science of forensic medicine was, if not called into being, at least greatly stimulated by the necessities of the crusade against demoniacal possession; and have pointed out that the disciples of the new science were, particularly, though not exclusively, in England, assessors before they ultimately became experts. It still remains to account for the origin of medical advocacy, and the disrepute into which it has fallen. To some extent, expertism necessarily involved advocacy. The expert was summoned as a skilled witness to support certain conclusions which he well knew would be strictly tested and, if possible, disproved, by testimony as qualified and as credible as his own. Human nature being what it is, a certain degree of heat and a certain proportion of dialectic sparks must inevitably have been caused by the friction of irreconcilable scientific opinions. But the circumstance which, at any rate in En-

gland, stamped upon medical expertism its distinct and peculiar character was the application to the position of the expert of the reasoning by which the status of counsel was justified. Of course, the analogy was a false one, but we cannot be surprised that it should have been tacitly relied upon. English law already acknowledged the right of a legal expert to sum up everything that could be urged in favor of a given proposition, and to ignore everything that militated against it; and there was nothing immoral in this anomalous privilege, when its exercise was publicly recognized, and its abuse was prevented by effective safeguards. Why should not the tribunals equally admit, and the public equally acquiesce in the claim of a medical expert to accept a retainer for the attack or defense of a scientific opinion, and why should not the expert be endowed with the same latitude of assertion and the same immunity from civil consequences which were enjoyed by the Bar. Now, it is not here intended to expose the fallacious character of this assumed analogy, or to show how little can be urged in favor of a regime from which every medical expert in the Old World desires to be released, or to release his brethren. I pass on to consider another cause, purely historical in character, of the disrepute into which expertism has fallen.*

From the electric atmosphere of the French Revolution had been generated that theory of *manie sans dèlire* which will be forever associated with the name of Pinel. Exaggerating, if not, indeed, mistranslating the language of this distinguished alienist, his disciples, Marc and Esquirol and several other writers, foremost among

* Many of the ideas, and some of the sentences in this part of the paper are taken from a short article on "Expertism," published by me in the Medico-Legal Journal for December, 1887.

whom were Prichard and Ray, familiarized the public mind with an alleged type of *manie sans delire*, indistinguishable in its characteristics from simple "moral depravity." That a residum of fact underlay the speculations of these writers I am not prepared to deny, but I venture to assert (1) that the irresistible criminal impulse theory derived little countenance from the *observations* of Pinel himself; (2) that the cases on which this dangerous superstructure was raised were sometimes irrelevant, often inconclusive, and always ill assorted; and (3) that the doctrine of moral insanity, as I have just defined it was put forward by alienists in the English courts of law without any apparent consciousness of the responsibility which they were incurring.

Whatever its scientific value may be, it is incontestable that the theory of *manie sans delire* was presented by English experts to the minds alike of judges and of criminals as affording a convenient apology for every morbid appetite, and every crime of exceptional brutality. Whenever the arm of justice was raised to strike, the medical expert plucked her sleeve and sought to paralyze the blow. It seemed as if the sanction of science was to be given to the prayer of the prophet: "Oh, God! Be kind to the wicked. To the good Thou hast already been sufficiently kind in making them good." Against this apotheosis of viciousness, the grim school of Alderson and Rolfe arose in healthy revolt, and insisted that if moral insanity, thus interpreted, was a disease, the proper hospital for its treatment was the treadmill or the scaffold.

From its alliance with French celebrities, and, perhaps I might add, from its unseemly struggle to save the life of the poisoner, William Palmer, medical expertism in England has never recovered. Inheriting the traditions

of its ancestry, the legal profession has never honestly acknowledged the splendid services which even medical advocacy has rendered to science and humanity, and has unworthily meted out to men of the calibre of Taylor and Maudsley the strictures that were not wholly undeserved by Prichard and Ray and Nunneley. The wings of Counsel have indeed been somewhat shorn since the insolent question "Upon your solemn oath, Levi, and in the face of the profession, do you persist in swearing so and so?" was considered indispensable to an effective medico-legal cross-examination; but the medical witness has still imputed to him with Calvinistic precision, not only the full weight of his actual transgressions, but the original sins of presumptiousness and partizanship, which are held to have descended to him by professional generation.

2. The end for which all students of forensic medicine in the Old World are striving is *to reconvert the medical advocate into the medical assessor*. Now, an English lawyer at least is estopped from disputing the desirableness of such a change by three notorious precedents in his own system of jurisprudence. I refer (1) to the practice of the Admiralty Division of the High Court of Justice, by which questions of admiralty law are determined with the aid and advice of nautical assessors; (2) to the special power conferred by the Patents Act, 1883, upon the Law Officers of the Crown, the Court of Appeal, and the Judicial Committee of the Privy Council, to summon a scientific assessor to their assistance, in dealing with Letters Patent for inventions;* and (3) to that section in the Judicature Act which empowers any Judge of the High Court to call in the aid of an assessor

* The Parliamentary Reports on the Patent Laws (1851–1865) contain much information of great value by way of analogy.

in any cause or matter *other than a criminal prosecution by the Crown.* Under the existing adjective law of England, there is nothing to prevent an assessor from being summoned to the trial of any action in which a medico-legal issue is raised or arises; and the extension of the same power to criminal cases is a logical, as it is a practical necessity. The creation by statute of a body of public assessors would be a complicated remedy, and as new branches of expert evidence appeared and developed, would be found to be incomplete. All that seems to be requisite is that every judge of criminal jurisdiction should possess the power, conferred by the Judicature Act upon the Judges of the High Court in civil proceedings, to call in the counsel of a competent medico-legal assessor. The problem of how to adjust the relative functions of judge and assessor has already been solved by the Patents Act, and the admiralty practice, and need not detain us now. The considerations which I venture to press upon you in closing are these: (1) the disrepute into which medical expertism has fallen in England arises from historical and accidental causes, which are capable of being corrected; (2) the principle that an expert should be an assessor, and not an advocate, or at least, that the courts of law should have the assistance of experts who are not advocates, has already received statutory recognition in this country, and is countenanced by the best qualified opinion, both upon the Continent of Europe and in America.

When the change which we desire has taken place, the *dictum* of Bonnier will have acquired a new and a better significance—*L'expertise n'est qu'un verre qui grossit les objets.*

*MEDICAL EXPERTISM CONSIDERED FROM ITS LEGAL AND MEDICAL STANDPOINTS.**

By T. Gold Frost.

From the days of the old English ordeal and wager of battle, down to the age of the modern expert witness, is a great step; for within this period occurred most of the changes and events, which have made the good old common law what it is to-day. Without attempting any sketch of the development of those rules of evidence which are so familiar to the lawyers of this enlightened generation, let us turn immediately to the consideration of that branch of the law of evidence, which relates to what are technically termed "experts." Mr. Bouvier (in Vol. I of his Law Dictionary) has defined the word "experts" as meaning "persons selected by the Court or parties in a cause on account of their knowledge or skill, to examine, estimate and ascertain things, and make a report of their opinion."

The testimony of the expert should further embrace, not only his stated opinion, but also the train of reasoning which has led him to form such an opinion (Greenleaf on evidence, § 440 M.). But it is not with experts in general, but with the "*medical* expert," that we are called upon to deal. The term "medical expert" may be defined as meaning, one who, by reason of knowledge, skill or experience in the science of medicine, is considered by law to be a proper exponent of questions relating thereto. Before entering into a systematic discussion of the subject, it seems fitting to notice briefly the

* Read before the Congress of Medical Jurisprudence, Jan., 1889.

many attacks—some of them most bitter and uncalled-for—which have been made upon the whole system of expert testimony in general, and upon medical expertism in particular, by members of the legal profession, text-book writers and others. Indeed, to the unprofessional mind, so many and severe have been the criticisms which have been passed upon expert testimony, that it is difficult for them to understand "why a system, which would seem to be regarded as rather pernicious than beneficial, should be even tolerated by the law" (Bell on Expert Testimony, p. 7). Mr. Taylor, in his work on Evidence (Vol. I., p. 74), says: "Perhaps the testimony which least deserves credit with a jury, is that of skilled witnesses; and the United States Supreme Court, in McCormick vs. Talcott (20 Howard, 402), characterizes them as "reveries" and "as often skillful and effective in producing obscurity and error, as in elucidation of truth." If expert testimony in general has fared badly at the hands of certain members of the legal profession, medical expertism has fared even worse. For example, let us give but a single instance. Judge Davis, of the Supreme Court of Maine, in delivering the opinion in Neal's case (See 1 Red. Wills, 101) said: "If there is any kind of testimony that is not only of no value, but even worse than that, it is, in my judgment, that of medical experts. They may be able to state the diagnosis of a disease more learnedly, but upon the question, whether it had at a given time reached such a stage, that the subject of it was incapable of making a contract, or irresponsible for his act, the opinion of his neighbors, if men of good common sense, would be worth more than that of all the medical experts in the country (See also opinion of Judge Woodruff, in Gay vs. Ins. Co., 9 Blatch., 142). But

notwithstanding all this adverse criticism, the system stands to-day, recognized by the courts both of this country, and of England, and strongly favored by the great body of the profession in both countries. That the system, notwithstanding its manifest faults and imperfections, is well worthy of the favor and support of all persons who earnestly desire to see justice done and truth promoted, in the highest degree possible, in each and every case, will be the object and aim of this paper. To develop the subject systematically and intelligibly, it will first be considered from its legal, and secondly, from its medical stand point.

I. MEDICAL EXPERTISM CONSIDERED FROM A LEGAL STANDPOINT.

The custom of permitting the evidence of medical experts to be introduced in the trial of certain causes, is by no means a new one peculiar to this century; for as far back as the days of the German Emperor Charles V, it was distinctly recognized, and even incorporated into the "Caroline Diet," adopted at Ratisbon in 1532 (Elwell Malp. and Med. Ev., 285). In English law it appears to have been recognized first as a necessary adjunct to the execution of the writ *de lunatico inquirendo*, and since the close of the eighteenth century, the province of the medical expert has greatly widened and enlarged. As a necessary incident to this, there must have been an inceased demand for the services of medical experts, and this brings us to the inquiry as to what is the necessity—the *raison d' être*—of having expert testimony in the trial of various causes at the present day.

The answer to this is very briefly as follows:

The questions of fact which come up daily before our

courts for adjudication, are constantly becoming more technical and intricate as time passes on: as a consequence of this, the assistance of those whose thorough education and training are competent to explain and unravel these difficult questions, have virtually become a matter of necessity. To be more specific, as regards the necessity of having medical expert testimony, the following might be stated: The opinions of medical men are constantly needed during the course of a trial to show the cause of disease or of death, or the consequence of wounds and injuries; also to determine the question of sanity or insanity, to examine the insured, in life insurance policies about which a suit has arisen after death, and many other matters, as to which a knowledge of the laws and practice of medicine is requisite.

Considering now the subject in its strictly legal aspect, let us inquire first as to the *qualifications* of the "*medical expert*," and secondly, as to what must be the *nature* of the subject matter of the inquiry in order that his testimony may be admitted. Generally speaking, his qualifications should be as follows:

First, inasmuch as his ability and skill in the science of medicine is the ground on which his testimony is sought to be introduced, he must establish fully, and in a manner satisfactory to the Court, that he is possessed of special knowledge of this science. It is not necessary, however, that he should have ever actually *practiced* his prosession, or that he should belong to any particular school of medicine (see Greenleaf on Evidence, § 440; 1 Wharton Ev., § 441). It might also be said that, other things being equal, the value of his testimony will depend mainly upon whether his claims to proficiency in his profession are well founded or not.

Again, he ought, in order to merit the title of an expert, be abundantly able to understand, apply and explain the rules and practices of the particular department of his profession, in which his testimony is required. As to the degree of skill which the expert should possess in order to testify, it is impossible to lay down any definite rule; it is always left to the Court to decide as to his competency, and judges, both in this country and in England, have been very liberal in the matter (Del. and Ches. S. T. Co. vs. Starrs, 69 Pa., 36; State vs. Ward, 39 Vt., 255; Taylor on Ev., 63). Indeed, it seems to be sufficient if the expert but possesses the average ability of members of his profession (Hall vs. Costello, 48 N. H., 176; Tuller vs. Kidd, 12 Ala. N. S., 618). Finally, as a broad general proposition, if it can be established that the proposed witness has been educated for or practiced the medical profession during such a reasonable time as would be sufficient for one of common intelligence to become familiar therewith; it will enable him to testify as an expert. In regard to the qualifications of medical experts, when the question of sanity or insanity is made a leading issue, it should be said that they differ somewhat from the qualifications ordinarily required, when medical testimony is introduced. Thus it has been said that "forensic psychological medicine is a specialty, and an expert in this specialty must be skilled in three departments of science. 1st, law, sufficient to determine what is the 'responsibility,' which is to be the object of the contested capacity; 2d, psychology, so as to be able to speak analytically, as to the properties of the human mind; 3d, medicine so far as concerns the treatment of the insane, so as to speak inductively on the same subject. If either of these factors is wanting, a witness cannot be tech-

nically called an expert" (1 Wharton & Stille, Med. Jur., 275).

We now come to our second inquiry as to what must be the *nature* of the subject matter of the inquiry, in order that the testimony of experts, as such, should be received. In answer to this, it may be stated briefly, that whenever this subject matter is of such a character that inexperienced persons are unlikely to prove capable of forming a correct judgment upon it without assistance, then the opinion of witnesses possessing the necessary skill is admissable (3 Douglas, 157; Rex vs. Searle, 2 M. & W., 75). As a corollary to this; it might be stated, that expert testimony cannot be introduced when the inquiry concerns a subject matter, the nature of which is not such as to require any peculiar habits or study, in order to be able to testify intelligently about it. Let us now consider somewhat at length the *functions* of an expert, together with the rules which relate expressly to the production of expert testimony. In the first place, it should be remarked, that the true function of the expert witness is not "to substitute opinion for fact, but to offer reasonable and well-grounded opinions as a basis of consideration, where facts themselves are from the nature of the case inapplicable and insufficient (Bell on Expert Testimony, p. 24). In short, the expert simply presents the *data*, the competency and relevancy of which the Court is to judge, and upon which the Court is to declare the law (Whart. & Stille, Med. Jur., § 280). In the case of Gay vs. Union Mutual Life Ins. Co. (9 Blatch., 142), the relative degrees of importance of the expert's testimony is laid down as follows. First. where he states precise and well-settled scientific facts, or necessary conclusions therefrom, in which case his opinion is entitled to great weight;

second, where he gives only probable inferences from the facts stated, where his opinion is of less importance; and third, where the opinion being speculative and admitting of another opinion consistent with the facts, is entitled to but little weight.

In entering upon a brief survey of the "law of expert testimony," the question which first comes up naturally relates to the mode of securing the attendance of the expert witness at the trial. In his capacity as an expert, he cannot, like other witnesses be subpœnaed to attend the trial, but must receive and is entitled to special fees (Wharton on Evidence, § 380). In regard to the examination of an expert witness, much might be said, but the following leading principles must suffice. He cannot be examined as to matters of common knowledge, and as to whether certain matter, belong to an expert, is a question for the Court to decide (Wharton on Ev., §§ 436, 437). The proper method to adopt in examining an expert witness, is to ask him certain hypothetical questions, based upon such a state of facts as are deemed by counsel to be warranted by the evidence, and if the jury find the assumed state of facts to be proven, the opinions of the expert are then admissible (Opinion of Judge Story, in U. S. vs. McGlue, 1 Curtis, 9).

Experts cannot be asked to give their opinions in any case upon controverted questions of fact (Wharton on Ev. § 32). Another important principle, and one which is very commonly applied, is that experts cannot state their views on matters of moral or legal obligation (Campbell vs. Rickards, 5 B. & A., 846).

Thus, for example, the opinion of certain physicians, as to whether a certain member of their profession had honorably done his duty to his medical brethren, was rejected on the ground that the jury was as capable of

forming an opinion in the matter, as the witnesses themselves. Again, expert witnesses may refresh their memory by reference to professional treatises, relating to the subject, in regard to which they are called upon to testify. Such works may be mentioned as a ground for the opinions advanced, but they are not allowed as evidence in the case (Wharton on Ev., § 438, *et seq*).

On account of the broad range of subjects, it is practically impossible to limit the exercise of the expert's functions, to a particular brand of medicine. Thus a physician, not an oculist, has been permitted to testify as to injuries of the eye; physicians, not veterinary surgeons, as to diseases of mules; and other persons, not surgeons of any kind, as to diseases of animals; a physician, not making insanity a specialty, as to whether a person he visits is insane; a witness, not a chemist, as to whether certain stains are apparently blood" (1 Wharton Ev., § 439). Finally, it sometimes happens that the testimony of both experts and non-experts are introduced at the same trial, in support of the same point at issue. In such a case, the distinction between them is, as has been well said, *quantitative*, and not *qualitative* (People vs. Fernandez, 35 N. Y., 49). As has been already noted, the Court has a very large discretion and power given it, in respect both to the *admission* of expert witnesses, and as to the competency of their testimony; but this is not the only power which is given to it, in order to guard against the evils which sometimes are incident to the admission of expert testimony. As was stated by Judge Doe, in State vs. Pike (49 N. H., 399), at common law, "the judge may give the jury his opinion of the weight of any part, or the whole of the evidence, with the limitation, that he is not to give the opinion as imperative upon them, or as infringing upon their province as judges of the facts."

II. MEDICAL EXPERTISM CONSIDERED FROM A MEDICAL STANDPOINT.

On the medical side of this question, there arise many objections to the present crude use of medical testimony, and the methods of evolving it. The widely differing modes of thought that prevail in the two professions—in the one, the decision of cases rests upon the great principles and maxims; while in the other, the minute facts develop a groundwork upon which to build up great truths. The position of the seeker for scientific truth, as contrasted with that of the advocate, acting as a skillful advocate, is one of antagonism. The expectation on the part of counsel, that the medical expert will testify in his favor, is in itself a bar to the procurement of unbiassed opinions. As it is the duty of the learned counsel to protect the interest of his client, so it is the duty of the medical expert to preserve, the secrets of his patients under the closest cross-examination, in so far as it is not antagonistic to the law of the land, and the principles of public policy. The medical expert should ever base his opinions on scientific facts, but should always avoid speculation. To avoid absurdities and glaring untruths, the cross-examination should be most thorough, and the prior history of the patient, concerning whom their testimony is needed, should be well understood. To show the necessity of this, it might be remarked that experts have b en placed on the witness-stand to testify "that no sane person commits suicide, and that all suicides are insane; that all men are more or less insane; that certain propensities or faculties can become irresistible by themselves, and when insane, are irresistible; that very bad people, and especially old convicts, are insane, and that certain signs which the great

body of the profession regard as indifferent, are sure marks of insanity." In short, as Cicero, in his "*De Divinatione*," has said, *Nihil tam absurde dici potest, quod non dictum al aliquo philosophorum* (See 1 Wharton and S. Med. Jur., § 271). The position of a medical man in a case of insanity is a peculiarly difficult one, for here he must bring to bear all his scholastic as well as his experimental knowledge, and then, without prejudice or bias, present them to the Court. Society at large has a deep interest in this matter of proving the sanity or insanity of certain persons, especially when such an issue is pleaded in a criminal trial; and it certainly has a right to demand that the medical expert should testify in such a case, only after the most thorough and exhaustive examination of the case. Were this always faithfully and honestly done, there would be fewer instances of so-called insane criminals, who after a short period of treatment, are dismissed from the institutions, in which they have been placed, as cured. Again, it has sometimes happened that through the evil designing of interested parties, and the connivance, or possibly, ignorance, of expert witnesses, men of perfectly sound minds have been sent to an insane asylum. Experience has shown that even in the most absurd cases, experts (?) may be found to testify as to the insanity of a party. As a matter of course, in some cases, it is really a difficult matter to determine this question, as was but a few years ago so well shown in the trial of Chas G. Guiteau for the murder of President Garfield. From what has already been said, it will readily be acknowledged that the necessary qualifications of a medical expert are many and not few. To attempt to state all these qualifications would be but to end in failure. Without, then, attempting any exhaustive statement,

the following general principles may be laid down. The medical expert must be ready to produce the latest experimental investigations in the special branch of his profession to which he is called as a witness. His statements of the facts upon which his opinion is based, as well as the course of reasoning which has led him to reach such a conclusion, must be clearly and accurately stated. His knowledge of the anatomical relations, and the physiological laws, should be broad and accurate. The true expert should be fully acquainted with the effect of various medicines upon the human system, should understand thoroughly the ordinary course of disease, should be a good chemist—both theoretically and experimentally—and finally, should have had, in order to add *moral* effect to his testimony, both with the Court and jury, a somewhat extensive and successful practice. In regard to this last remark, it should be said that while the law does not require an expert to have ever practiced his profession, still, it is perfectly evident that the testimony of some great and noted general practitioner or specialist, would weigh far more heavily with a jury, than that of one whose knowledge was purely theoretical, and which had never been put to the severe test of being put in practice. Indeed, cases very often hinge on the question as to which side in a case, has offered the ablest expert testimony.

This closes our consideration of the subject from a medical standpoint; and, in conclusion, a few words will be added in respect to the subject of medical expertism in general. In the first place, it may be well to call attention to the abuses and dangers of expert testimony. Admitting that it is susceptible of abuse, and open to many dangers, let us ask ourselves the question: Does the law not provide some means whereby this can be

entirely avoided, or at least, greatly mitigated? In answer to this inquiry, it may be said, that expert witnesses are liable, just the same as ordinary witnesses, to be prosecuted for perjury, if they testify falsely, even as to their belief (2 Taylor Ev., 1227). But the weak point in the whole matter is, that it is practically impossible to *prove* that the testimony, which they may have given, is not in accordance with their belief. One of the great dangers of medical expert testimony is, that very few lawyers have the requisite knowledge or skill necessary to detect false statements, or to bring out all the facts, by proper and searching questioning of the expert witnesses. Another danger which has been pointed out as incident to the introduction of medical expert testimony, is the attempt which is so often made "to expand and pervert the functions of an expert, from the exposition of scientific and technical rules of practice, to the statement or discussion of questions of moral or municipal law." Again, experts are permitted to testify, who are clearly biased or prejudiced; in such cases, if the right to recover a verdict, or the decision of a case, depends entirely on the opinion of such experts, then their testimony should be thrown out (Schultz vs. U. S., 2 Nult. and Hurts, 380). With this, our consideration of the question of medical expertism must close. What has already been said is sufficient to show that while many evils have, as a matter of course, crept into the system, still the good points are far in excess of the bad ones. And it may be confidently asserted, that the well-established practice "of the expert witness informing the Court or jury, and the Court and counsel maintaining the proper line of demarcation between the law and the facts," will continue to prevail for many years to come.

*ABORTION.**

By a Member of the Medico-Legal Society.

Motto,—"All's not offence that indiscretion finds and dotage terms so."
—*Shakspeare.*

DEFINITION.

Webster defines Abortion (n.) (Latin, *abortio*, a miscarriage; usually deduced from *ab* and *orior*).

1. The act of miscarrying or producing young before the natural time, or before the fetus is perfectly formed.

2. The fetus brought forth, before it is perfectly formed.

3. In a figurative sense, any fruit or produce, that does not come to maturity, or anything which fails in its progress before it is matured or perfect, as a design or project.

Abortive in medicine, procuring abortion, as abortive medicine.

Worcester definition is abortion (n.) (and *abortio*).

1. The act of bringing forth what is yet imperfect; premature delivery; miscarriage.

2. The product of an untimely birth.

3. A failure in any enterprise.

Abortive (n. 1), that which is born before the due time; an abortion.

2. (Medical.) Something supposed to produce abortion.

Abortive (a), (1. *abortivous*).

1. Brought forth before due time; immature; untimely; failing.

2. Pertaining to abortion. "Abortive remedies."

* Read before the International Medico-Legal Congress, June 7, 1889, and the Medico-Legal Society, September, 1889.

Thomas' Medical Dictionary defines abortion (Lat. *abortionis*, from *abortior*, *abortus*, to "miscarry."

The morbid expulsion of an immature fœtus, a miscarriage, and the same authority defines abortive (Latin, *abortionis*, from *aborior*, *abortus*, to miscarry), causing abortion. Sometimes applied to treatment adopted for preventing further or complete development of disease.

Quain's Medical Dictionary, under head of "Abortion," says: "The act of abortion signifies the expulson of the contents of the pregnant uterus, before the seventh month of gestation."

An abortion is a designation given to a *fœtus* prematurely expelled.

Abortion is defined by Storer as "the violent and premature expulsion of the product of conception, independent of its age, visibility, and normal function."

This definition is intended to apply to criminal abortion, and to relate exclusively to cases where the attempt at premature expulsion of the uterus is artificially and intentionally induced, and when it is not necessitated, and would not otherwise have occurred, and excluding.

1. When it is the result of accident.

2. From natural causes, or

3. Justified by the rules of medicine, to save the mother or the child. (Storer on Criminal Abortions.)

Miscarriage (n.), according to Webster, in the medical sense, is the act of bringing forth before the time, but so late that the young are capable of surviving.

Miscarry (v. i.), in the same sense, by the same authority, is: "To bring forth young before the proper time, but still at so late a period as to be incapable of surviving."

Worcester thus defines miscarriage (n.) in the medical

sense: The act of bringing forth young before the due time. Abortions (Dungleson): "The expulsion of the fœtus from the uterus within six weeks after conception is usually called miscarriage; if it occurs between six weeks and six months, it is called abortion, and if during any part of the last three months, before the completion of the natural term, premature labor" (Hoblyn); and he also defines miscarry (v. n.) in the same sense: "To bring forth young before the due time, to have an abortion."

Quain's Dictionary of Medicine, in an article under head of "Miscarriage" (Dr. ALEXANDER R. SIMPSON), defines it thus:

"Miscarriage is the interruption of gestation, before the *fœtus* has become viable." And the same author uses the word in its medical sense as synoymus with "Abortion" (F. V.) *Avortement; Fausu Conchi;* Ger., *Fehlgeburt.*

Fœticide, criminal abortion, is thus defined by Worcester (L. Fœtus, a *fœtus*, and *caedo*, to kill) (Law), the crime of producing abortion (Bouvier). He defines the Fœtus (Med.) as "The child in the womb after it is perfectly formed, called, in the earlier stages of gestation, the embryo.

Webster defines Fetus (I.) (fetus): The young of viviparous animals in the womb, and of oviparous animals in the egg, after it is perfectly formed, before which time it is called the embryo.

A young animal, then, is called a *fetus* from the time its parts are distinctly formed till its birth.

Thomas' Med. Dict. defines fœticide (Lat. *fœticidium*, from *fœius* and *cœdo*, to kill). The murder of the fœtus in *utero*, criminal abortion.

And fœtus is thus defined (fœtus or fetus): "The

child in *utero* from the fifth month of pregnancy till birth."

Dungleson thus defines :

Fœtus, gen. fœtus, fetus, cyema, onus ventris sarcina. The young of any creation, the unborn child (F.) *fetus faix*, fruit. By *κνημα* Cyema Hypocrates meant the fecundated but still imperfect germ. It corresponds with the term embryo as now used, while *εμβρον embryo* signified the fœtus at a more advanced stage of utero gestation.

The majority of anatomists apply to the germ, the name *Embryo*, which it retains until the third month of gestation, and with some until the period of quickening, while *Fœtus* is applied to it in its later stages. The terms are, however, often used indiscriminately.

When the ovule has been fecundated in the ovarium it proceeds slowly towards and enters the uterus, with which it becomes ultimately connected by means of the placenta.

When first seen, the fœtus has the form of a gelatinous flake, which some have compared to an ant, a grain of barley, a worm curved upon itself, &c.

The fœtal increment is very rapid in the first, third, fourth and sixth months of its formation, and at the end of nine months it has attained its full dimensions (Enfante a terme). Generally there is but one fœtus in utero, sometimes two, rarely three.

The fœtus presents considerable difference in its shape, weight, length, situation in the womb, proportion of its various parts to each other, arrangement and texture of its organs, state of its functions at different periods of gestation, &c. All these differences are important in an obstetrical and medico-legal point of view.

Alfred Swayne Taylor, in his work on Medical Jurisprudence, thus defines abortion in its medical sense :

"By abortion, is commonly understood in medicine, the expulsion of the contents of the uterus before the sixth month of gestation. If the expulsion takes place between the sixth and ninth month, the woman is said to have a premature labor."

The law makes no distinction of this kind, but the term abortion is applied to the expulsion of the fœtus, at any period of pregnancy before the term of gestation is completed ; and in this sense it is synonymous with the popular term "Miscarriage."

Dungleson thus defines it in its medical sense :

"Abortion, abortus, aborsus, aborsio, dystocia, abortiva, omotocia, paracyesis, abortus, ambloses, ablome, amblosums, ecbole, embryotocia, diapthora, ectrosis, exambloma, examblosis ectrosmus, appopalsis, apopthora, pthora, convulsio-uteri, deperdilio, (f) avortment, blessure, miscarriage, (from *ab* and *oriri ortum*, "to rise," applied to that which has arisen out of season.)

The expulsion of the fœtus before the seventh month of utero gestation, or before it is viable.

The causes are referable either to the mother, and particularly to the uterus, or to the fœtus and its dependencies.

The causes in the mother may be : Extreme nervous susceptibility, great debility, plethora, faulty conformation, &c., and it is frequently induced immediately by intense mental emotion, violent exercise, &c.

The causes seated in the fœtus are its death, rupture of the membranes, &c. It most frequently occurs between the eighth and twelfth weeks of gestation.

The symptoms of abortion are : Uterine hemorrhage, with or without flakes of decidua, with intermitting pain.

When abortion has once taken place, it is extremely apt to recur in subsequent pregnancies about the same period.

Some writers have called abortion, when it occurs prior to three months, effluxion. The treatment must vary according to the constitution of the patient, and the causes giving rise to it. In all cases the horizontal posture and perfect quietude are indispensable.

Abortion is likewise applied to the product of an untimely birth, abortus, aborsus, apoblema, apobole, ecbloma, amblothridion, ectroma, fructus fœticide, faticidium, (fœtus and caedere "to kill")—*aborticidium.*

Criminal abortion.

Abortive (f) abortif.

A medicine to which is attributed the property of causing abortion.

There is probably no direct agent of the kind. (See ectrotic.)

ARGUMENT.

Abortion being nowhere forbidden in the Bible, cannot strictly be called an offence against the divine law.

It is not forbidden in the Koran and has been always practiced among Mahomedans.

While not forbidden by the law of Moses, it must be conceded that it was not practiced by the Jews. This we may regard as established:

a. By the fact that the increase of population established beyond doubt its non-existence as a practice among that people.

2. It was not punished as a crime by the law of Moses.

The higher earlier authorities show that the practice of destroying the fœtus in utero, obtained universally among all the earlier nations of the world, with perhaps the single exception of the Jews. (Storer on Abortion, 31. Beck Med. Jurisprudence, Vol. 2, p. 389.)

Making abortion a crime has always been the result of statutory enactments or municipal regulations.

It is impossible to give a date for the beginning of the time when abortion was made a crime in England by law.

The Common Law, which is founded on traditions whereof the memory of man runneth not to the contrary, makes it a crime with severe punishments.

Fleta, almost the oldest authority (A. D. 1290), says:

"10. Cui etiam mulierem proegnantem oppresserit, vel venen um dederit vel percusserit ut facial abortivum-vel non concipiat, si fœtus erat jam formatus et animatus rectè homicida est.

"11. Et similiter qui dederit vel acceperit venenum sub hac intentione ne fiat generatio vel conceptio.

"12. Item facit homicidium mulier quoe puerum animatum per potationem et hujus modi in ventre devastaverit."

In English-speaking countries, it has, from earliest written records, been classified as a crime, but has been substantially a dead letter upon the statute books, and rarely enforced.

This has been due, doubtless, to the fact (unpleasant and unpalatable as it may sound, to state it) that it was against the common and almost universal sentiment of womankind; she who was the greatest sufferer and victim of the social conditions, under which its practice became necessary and inevitable; she who dreaded more the consequences as affecting her social condition than she feared legal penalties, never in her heart respected the law nor held it binding on her conscience. In considering the subject from the maternal standpoint, we should have the courage and the honesty to

look the issue squarely in the face. And, first in marriage:

Has a woman the right to determine the question whether she will take upon herself the pangs and responsibilities and duties of maternity?

Has she any rights at all, upon this question, peculiar to her individuality or sex, or does she, by nature or instinct, or under the law, by marriage place herself in the same relation to her husband, that he has over his flocks, his herds or his horses?

Is it the right of the husband, by the moral law, the Divine law, or by statute law, to dominate the wife, and compel her to bear children, as he would the animal he owned, irrespective of her wish or will, and even over her protest.

If he has not the right to enforce his wishes over hers, what are her rights in the premises, or has she any at all? May she decide for herself, whether or not she will bear children?

It does not need any argument to establish a fact well known to every careful student of political economy, to every medical man, in general practice, that the educated, refined, cultured women of this country, in married life, have, by a very large majority, decided these questions in their own favor, and have set at nought and at defiance the statute laws upon this subject, as binding on neither their consciences nor their actions.

Gail Hamilton, in "Woman's Wrongs, a counter irritant," a reply to Rev. John Todd's "Woman's Rights, a plea for a holier living," voices the inner sentiments of the better classes of her educated and cultured countrywomen in the fearless and forcible manner in which she presents her views on this subject.

The extent of the enforced restriction of the popula-

tion thus forced on womankind, is easily demonstrable, and the evidence is quite conclusive. The best tests are :

1. The comparative increase of the population.
2. The published record of still-births.
3. The number of arrests or trial for abortion.
4. The comparative size of families in present and past times, and,
5. The knowledge and experience of physicians and others who are in a position to know facts regarding it, but not accessible to the general public.

A careful writer who made this subject a study twenty years ago, says, in comparing various countries, that the "fecundity of European countries had diminished in the preceding century as follows :

"In Sweden, one-fifth ; in Prussia, one-fourth ; in Denmark, one-third ; in England, one-third ; in Russia, one-half ; in Spain, one-half ; in Germany, one-half ; in France, one-half.

(Storer Abortions, p. 19, and authorities there cited.)

His views are corroborated by Rau (Lerbuch der Politschau ackonomie) Quetelet's tables, though for different years corroborates the views of Storer. (Sur la homme et la developent de ses faculties. Tome 1, Chap. 7.)

Legoyt. In May 1847 in Journal des economistes published tables to the close of 1846, which showed corroborative results of these views.

A careful examination of the recognized authorities at the period at which Dr. Storer wrote, would entirely justify the conclusions at which he arrived, viz : That

1st. The increase of still and premature births in the ratio of the total increase of births had greatly increased and 2d. That the only rational explanation was that this increase was in a great measure due to abortions.

The statistics of New York gave still stronger evidence in regard to the public sentiment of that city twenty years ago.

The registry of New York commenced in 1805 with a population of 76,170, when the number of still and premature births was 47. In 1849, with a population estimated at 450,000, the number had increased to 1,320, as was shown by the report of the City Inspector for that year.

The table showing that ratio from 1805 to 1849 as given by Dr. Storer, was as follows:

RATIO OF FŒTAL DEATHS TO THE POPULATION:

1805	1 to 1.633 40	1830	1 to 597 60
1810	" 1.025 24	1835	" 569 88
1815	" 986 46	1840	" 516 02
1820	" 654 52	1845	" 384 68
1824	" 680 68	1849	" 340 09

Startling as these figures then were, the fact must not be lost sight of that they do not include those cases of abortion which were not reported, and which were known only to the unfortunate mothers and those who aided them.

The report of the city Inspector for 1856 showed that out of 17,755 births, 16,199 were living, proving that one in every 11.4 was born dead.

Let us continue this table from the year 1856 to the present date.

John T. Nagle, M. D., of the Bureau of Vital Statistics, furnishes the writer of this article with the following table and letter in response to an inquiry for light upon this subject for the city of New York:

HEALTH DEPARTMENT OF THE CITY OF NEW YORK.
SANITARY BUREAU, 301 MOTT St.

NEW YORK, March 17, 1888.

DEAR SIR:—I send you a table of the births and still births and population for the years you desire. The fœtal age of the still born children I can

onlygive since the year 1866, but as you will perceive that the birth returns are very meagre I do not think the information will be of much value for giving an accurate proportion by years. If you think they will be of any use to you, please let me know and I will do the best I can.

Very truly yours, &c.,
JOHN T. NAGLE.

YEAR.	POPULATION.	BIRTHS.	STILL-BIRTHS.	
1860.....	805.651	12.454	1.638	
1865.....	871.340	5.332	?	
1870.....	942.292	14.524	2.254	475
1875.....	1.041.886	23.813	2.274	549
1880.....	1.206.299	27.536	2.362	
1885.....	*1.397.395	30.030	2.968	
1887.....	*1.481.920	34.023	3.100	

* Estimated population.

The same high authority furnished still further information as to still births in New York City.

HEALTH DEPARTMENT,
SANITARY BUREAU, 301 Mott St.
NEW YORK, April 3, 1888.

DEAR SIR:—I inclose a table of still births from 1870 to the year ending Dec. 31, 1887, which is the best I could do for you. I was unable to give you a satisfactory table of the fœtal age of infants prior to this date.

Very truly yours,
JOHN T. NAGLE, M. D.

These statistics show conclusively how universal the practice of abortion must have been in New York, and if similar statistics could be obtained, we should probably show a still greater percentage in the New England States.

As to the number of arrests and trials for this offence, the writer, by the advice of the present District Attorney, Col. John R. Fellows, who has had a long experience, consulted the veteran and intelligent Clerk of the Court of General Session of the City of New York, in response to the following letter:

NEW YORK, March 12th, 1888.

HON. J. A. SPARKS,
Clerk of Court of General Sessions:

MY DEAR SIR:—I will esteem it a great favor if you will furnish me, as soon as you can, with a statement showing the number of arrests, trials and

convictions in this city, of the mother for abortion, and of other than the mother for the procuring of abortion, during the past ten years, or fifteen, if accessible.

If, at the same time, a statement could be made in regard to the crime of infanticide, I should be very glad, but the former I need most. Infanticide where the mother was arrested. Trials and convictions, as well as others as accessories either before or after the fact.

I am referred to you for this information by our mutual friend District Attorney Fellows.

Very faithfully yours,

COURT OE GENERAL SESSIONS OF THE PEACE.

CLERK'S OFFICE.

NEW YORK, March 17th, 1888,

DEAR SIR:—Yours of 10th instant (enclosing note of the District Attorney) was duly received, making inquiries as to the number of cases for abortion for fifteen years past. Upon examing the records of said Court, I find that during that period, ten persons were convicted and one person acquitted on indictments for said offense.

The other inquiries you make I have no means of informing you.

Yours truly,

J. A. SPARKS,
Clerk of Court.

We may safely say that the result of the enforcement of the laws for the past fifteen years has not brought to light as many as one case a year, and that the existing statutes are substantially a dead letter, and do not at all meet the exigencies. The laws are in violation of the universal sentiment of woman, though no one has, apparently, dared to say so, and all that is said has been said by man in support of existing statutes; and so far as action has been taken, it is all in the line of increasing the severity of the laws, and adding to the penalties, without the slightest perceptible or probable effect upon women, either in preventing the practice, or diminishing its frequency in the slightest degree.

As to the compartive size of families of to-day, and of even the past generation, in what are called our better classes, taking the educated, cultured, wealthy and

highly respected, we may say that the size of families in New York and New England, show a marked decrease within the past thirty or forty years.

It does not need statistics to prove what every intelligent person of our period knows and recognizes at a glance.

The experience of physicians it is impossible to quote as a matter of public record for two reasons:

1. A physician is precluded by his professional obligations from telling what he knows to be the truth, as to this matter, in detail to the general public.

3. He, if a party to the abortion, is, of course, bound in regard to his own safety, not to reveal it, aside from his professional obligation to his patient. It is not possible that this general practice has gone on without the aid of physicians, not to say their knowledge, and it is quite safe to allege, what every person of intelligence knows, that there is probably no physician of experience in New York or New England, who does not know, by reason of facts coming within his professional observation, of the existence of or the causes that are shown by these vital statistics, of the universal prevalence of abortion among the better classes of married women.

Another class of persons who know, but who cannot testify are the husbands and heads of families, who largely know of the occurrences, in which they are either willing or unwilling actors and participants, but who cannot speak for fear of the consequences of the law, and of the exposure and scandal which is more considered and dreaded than the law, which is not enforced.

The question for us to consider is, what is the duty of the citizen in the matter?

Writers, of which Dr. Storer, in his work, is an example, have very generally denounced the practice as a

horrible and detestable crime. The medical profesions, as such, in all public or private utterances, with singular unanimity, condemn it, and none more loudly than those who, as family physicians, have been many times compelled, by the exigencies of their own practice, to aid the unfortunate mothers, who have attempted it, or had partially succeeded in doing so, before their family physician was called in.

The question is worthy the consideration of the body I address.

1. What are woman's rights in this matter?

2. Why keep laws on our statute books which are against the public sense of womankind, and

3. Why not have the courage to meet the issue fairly, and abolish all our laws upon the subject, as did the laws of Moses. and leave the question to the moral sense and training of our women, as the Jews were left, remembering that where there was no law, there was no transgression. And this was the country and the race, who did not practice it at all; and in our own country, where the most stringent and almost cruel laws are enacted, it is almost universally practiced.

ABORTION IN ITS CRIMINAL ASPECTS FOR THE UNMARRIED.

We have considered this offense by the married woman, who, so far as our knowledge and experience go, has hitherto escaped, and has never yet been punished for its commission.

Probably seventy-five or ninety per cent. of the abortions of our civilization, are committed by the married women of the nation.

Who has ever yet heard of a married woman being convicted of this offence, in the whole catalogue of convictions, small as they are? Nor do we regard this as

peculiar to the women of America. It is a question of cultured womankind everywhere, and it is the ignorant, not the refined, the cultured and the educated, who do not, as a rule, practice it.

What shall we say of the unmarried woman of previous good character, who has presented to her the terrible alternative of maternity out of wedlock (regarded and punished by our civilization, by a social degradation ten-fold worse than death), and the destruction of fœtus in utero in violation of law?

Let us have no shams, no falsehoods towards ourselves, no cant, no hypocrisy.

Is there one lawyer with human blood in his veins, who would condemn the fair young daughter of his best friend, for the salvation of her honor by this means, if no other alternative presented?

Is there one who, in his own heart, would for a moment hesitate, were it his own daughter, to urge her to choose what the statute calls a crime rather than face the scorn of the world, unceasingly and forever?

Is there one man in the world who, if he were in her place, and he could not avoid the alternative in any other, would hesitate to do what the woman of self-respect, of brain, of family, and of ambition must needs do, or be irretrievably disgraced?

Is there a physician, who has ever been a father, whose heart would be against such a woman's act to thus save herself from degradation, despair, death?

How many a poor, despairing girl, the victim of treachery and deceit, has thus faced death by the river or poison, and ended by suicide a life she did not know how to save, except by this means, whose modesty and shame have prevented her from seeking that aid from

medical men, which the law now makes it a crime in them to grant?

We do not hesitate to say, that either our civilization should exempt the unmarried woman from degradation or social harm in this terrible emergency, or our statute book should exempt her from the force of the pending statutes, if the shams of our social structure demand their further continuance as laws.

Over the portals of those asylums that shelter and protect the unmarried woman in this dire moment of supreme distress, that conceal her secret, throw the mantle of secrecy and forgetfulness over her fault, and enable her to bear the burdens of maternity without shame, should be written in effaceable letters, "Blessed are the merciful;" for they put back a little of the flood of human misery to the stricken ones, who are without refuge, or hope, and are the suffering victims of despair.

THE MALTHUSIANS.

We do not care to enter into the ethics of the question of the general laws of human reproduction. We need not advance the arguments of the Malthusian philosophers as to the ethics of the controversy, or dwell upon it in its relation to the social economy of the race.

The Hindoos do not hestate to kill children who come too rapidly, flooding the legitimate channels of reproduction, and when these streams overflow their natural banks, or are swollen beyond their usual channels.

The Chinese sailors are forbidden to rescue their fellows who fall overboard at sea, this being in a country so crowded with human beings that there is scarcely standing room for the population; measured by its food-producing capacity. There can be little doubt, that in the present state of our knowledge as to the embryo,

that life in the human being commences at a very early date indeed, and that the arrest of fœtal development involves much the same ethical questions at two weeks as it does later, so far as the suppression or extinction of a human organization is concerned.

What is called quickening in the law is simply such a state of the fœtal growth or life as is capable of a given muscular phenomena at that period.

The human entity is there before as certainly as after quickening, this being only a manifestation of a certain period of foetal activity.

Those who differed from that philanthropic clergyman, Malthus, never attempted successfully to dispute his facts, or question the basis of his argument founded upon probably indisputable natural laws of population, as affecting the structure of human society. The ratio of increase of human population when unchecked, according to this authority, is by arithmetical progression, 1, 2, 4, 8, 16, 32; while the natural increase of food production, under the most favorable conditions, is only that of 1, 2, 3, 4, 5, 6, 7, 8. The limitations thus placed on the increase of population by a higher law than human legislation, regulates itself within these limits to the salvation and good of the race.

We need not follow nor accept his philosophy, as to what are the legitimate or illegitimate checks by which the overcrowding of the race is averted, through entirely natural and constantly recurring outlets, always working in all ages and among all peoples.

We need not, as men of science, avert our eyes from what we all know and recognize, what has ever been, and must needs ever be. Nor should we add to the list of human crimes those methods of prevention, which the history of the race shows, it has been impossible to avoid or to cure.

Has the Medico-Legal Society the courage and the manliness to speak one strong word for woman and womanhood, on such an issue?

Is there a member who does not know what a hollow, shallow, mocking lie underlies the very base of the laws regarding abortion?

Must we all be frauds and shams to the outer world, and uphold a statute that our wives and mothers and daughters do not either respect, keep or intend so to do?

We have a law against profane swearing in our statute books. Is it ever enforced? It is a dead letter.

We have one against what is called blasphemy. Is it enforced? Yes; it was once in our day in the neighboring State of New Jersey, as our gifted Colonel Ingersoll could testify, but the single example in a generation or a decade only shows the more forcibly that this is also a dead letter.

Shall we repeal them? What harm do they do? is the cry, and we do not stir in such cases.

The difference in the case we now consider is, however, that we all go into a sort of public phrenzy when we speak of abortion.

The respectable physician in the social circle calls for a basin of water, and washes his hands with almost holy horror at the very idea of its practice.

The judge on the bench would, doubtless, imitate the Doctor if he ever had the opportunity, with the chief offenders of his own social set when convicted before him, which he never does, and each knows it is a lie and a sham.

Out upon either the social monstrosity or the statute. Let us take our choice as free untrammelled men of science without fear of popular clamor, and let our only fear be that of violence to truth, to right, and to conscience.

MENTAL EPIDEMICS.

By Moritz Ellinger, Esq., late Coroner of New York.

The theory that mental diseases are transferred by way of contagion from one person to another is of rather modern origin; investigations that followed the first advancement of that theory have been corroborative, and it has now been generally accepted by the world of science. Some call it induced mania, others mental disease caused by physic infection, contagion and imitation. French scientists call it *Folie a Deux*. It is true we have not discovered as yet the baccillæ which are the carriers of contagion, but a contemplation of the history of the human race would seem to establish beyond a doubt the existence of an invisible and imponderable substance which transfers ideas from mind to mind, and works with a rapidity and effectiveness outrunning by far the mischief wrought by infusoria and bacillæ.

There is, to my mind, no other explanation possible of the phenomenon of passion, of hallucination, of illusion, spreading with lightning rapidity over nations and continents, carrying everything before it, holding under its sway minds luminous in intellect, and holding its power for a long time, until, like physical plagues, they die out, after having run its full course. That impressions can be carried from mind to mind, and are so carried, seems to be demonstrated by the more modern thesis of hypnotism, also called by the significant designation "suggestion." We all know that it means the subjugation of one mind by another, the substitution of

another will for that of the individual, the transfer of ideas from one intellect to another.

We cannot explain the law governing this transfer any more than we can explain the spread of mental contagions in times gone by and in modern times. No thoughts seem to be too irrational, no conception too conflicting with human experience, no fallacy too great, no illusion to preposterous, but that it will, at one time or another, hold whole nations captive, and make them the slaves of folly and unreason.

Science recognizes in the universe no accident, no chance; all is reduced to cause and effect, and whatever occurs is due to the cause that precedes it. We may not be able to trace the cause that governs the moral world as well as we are able to define some laws that govern physical nature, but that such a law prevails in the one as in the other is a fact indubitably accepted by all naturalists and students. If, then, in the physical world we endeavor to trace the cause of epidemics, and seek to destroy it, we will also learn to find the cause of mental epidemics and look for the proper remedy and, stamp them out. Let me point out a few occurrences in history that point unmistakably to the origin, rise and spread of illusions which became epidemics, overwhelmed nations and demanded oceans of blood before a cure was had. Without going further back than the Crusades, who will gainsay that it was anything but an epidemic, which swept millions of people into the cauldron of perdition, which decimated the flower of Europe, which lit the lurid flames of fanaticism, bigotry and brutality, and laid the people at the feet of a few fanatics, who themselves were the subjects of morbid delusion. The wild, irrepressible fanaticism of a few monks infected the whole of Europe. Gallant knights, intrepid

warriors, ignorant peasants, all followed their lead, and the wild spirits of war, devastation, butchery and destruction, could not be laid at rest until human nature was exhausted. It was not reason that governed the hordes that traveled from place to place praying, exhorting, scourging their bodies, disregarding hunger, cold and exposure, but it was simply the uncontrollable obedience to the will of the few fanatics, who themselves were nothing but the instruments of some wily, scheming politicians. After the Crusades, we find another exhibition of mental contagion, a phenomenon in history which cannot be explained in any other mode. I refer to the persecution of witches and the general belief in the potency of the infernal spirits, and of Satan as their master. It was not alone the ignorant populace who believed in witchcraft, but lawyers and doctors, preachers and judges. They were firmly convinced that Satan had his myrmidons spread amongst the people, and that the slaves which they had selected for their victims had to obey the dictates of the purgatorial powers. Where that belief existed, the logical conclusion followed that bodies so defiled by unclean spirits could best be purified by undefiled fire. The *Malleus Maleficarum*, which regulated the prosecution and trial of witches, will remain forever a monument of the follies which have held the human race in subjection for centuries, controlling reason and will. More remarkable still is the fact that those unfortunate wretches who were tried and convicted as witches, as persons under the control of the devil, believed in that power themselves. They had faith in the influence which they possessed; and they were indeed firmly saturated with the poison which seemed to have arisen in some moral miasma, and which only yielded to a new era

of scientific investigation. In this place and on this question it is well to point out that it was a physician, a Dr. Becker, who had the courage to rise against this insane folly and illusion, and that his book, "The Enchanted World," did more to break the spell and arrest that epidemic than the arguments and sermons of rational preachers. They were not always baneful in effects, these epidemics which history teaches us have swept across human society. Revolutions which have conferred the greatest benefits on humanity, and the rapid spread of the ideas and sentiments underlying them, are ascribable to the same law. They purified the atmosphere of past corruption like the thunder-storm that purifies the air, though destructive in its effects. Let me point out the peasants' war in the sixteenth century. It was a revolution against feudalism, a war against the unjust powers exercised by the nobility. But these peasants were not led by a sense of the wrong they suffered, but simply followed the lead of a few men, and under their guidance carried death and destruction throughout the fields of Germany. It is a question whether the Reformation of Luther would have gained such headway as it did had it not been that the soil had been loosened by the violent revolution in the minds of the peasants where the seeds of new generative ideas had been imbedded. The companion piece in this revolution of the peasants is the rise of the French people, not against a few tyrants and aggressors, but against the whole corruption which had eaten away the substance of France for centuries. France was deluged with blood from 1789 to the downfall of Napoleon. I will refrain from referring further to the follies, extravagancies, the inexplicable, irrational movements of past centuries. It will be sufficient to point out the few

general movements in this century which are the confirmation of the law which seems to prove the prevalence of the law in the past as well as the present. Let me call your attention to the incomprehensible persecution to which the Masonic fraternity became subject in this country in the third decade. A Masonic brother, a printer, published and revealed the ritual which was used in Masonic lodges; he disappeared, and this incident subjected to a wide-spread persecution the whole Masonic fraternity. Masonry was denounced in the streets and Market-places, and while there perhaps was no reason for the great secrecy maintained before, it was not safe any longer then for any brother to admit his affiliation with the Masonic brotherhood. The most extraordinary ideas were spread about the doings of the Masonic brotherhood, and though some of the most illustrious men in the country belonged to the fraternity, their protest amounted to nothing. An epidemic of antipathy, of prejudice and wild hatred spread throughout the States, which could not be cured until time stepped in and acted as a sobering antidote. When the molecules of a mental craze appear, logic and reason are discarded; they infect the masses, and prejudice rules the day. Modern physicians have maintained that genius is a species of folly, inasmuch as the development of one faculty stuns the growth of the other mental faculties. Enthusiasm seems at times to become also a species of folly in taking possession of the whole man, subordinating his whole power of reasoning to one which he seems to have taken to his heart. Under that condition men will lay down their lives witout hesitation for the vindication of certain ideas which they have become possessed of. No sacrifice is too great for the attainment of a certain ideal, and human blood is shed

as freely as water. Enthusiasm then becomes an epidemic.

The question of slavery in this country aroused a few noble-minded persons, teachers and philanthropists, to the wrong and injustice, to the degradation of manhood, to the violation of the divine law which slavery involved. They gave utterance to their noble conceptions, and they often exposed themselves to the hatred and enmity of those who opposed their views. But the preaching of these great enthusiasts spread further and further, and lustrous mind after mind was enlisted in the noble cause which they represented, and finally an army arose which swept everything before it, and which finally effected the abolition of the great wrong, of the great injustice which America had tolerated. The term "epidemic," of course, usually expresses the spread of poison and injurious matter, and which brings disease in its wake. In mental epidemics it is not always injurious material which is thus rapidly disseminated. A noble and moral idea, a regenerative influence may be carried also by the same path by which the poison of illusion is disseminated.

We must acknowledge, therefore, that a current exists like the wind which carries the seed from flower to flower, from petal to petal, fructifying vegetation. It carries ideas through the mental world and produces flowers of more magnificent hues and color and greater utility than any that can be produced on terrestial soil. However, where a strong poison arises in some mental malarious region, this current is the same general agent which produces at times a mental epidemic. It is a twin product to physical epidemic, loaded with poison, and of deathly effect. In the most recent times we see prejudices arise in one class of people against another, which

have no explanation in individual reasons, and in individual wrongs. They are taken up as they float in the air, and infect the minds of all classes. In Protestant countries it will appear in the form of apprehension of the power and influence of Roman Catholicism, and become known as Knownothingism, or American patriotism. In another country it may be the Jew who is held up for hatred and contempt. In another, the foreigner may be made the subject of persecution. In France the Prussian is pictured as the embodiment of all that is hateful. Chauvenism often causes the destruction of millions of valuable human lives. At another time exalted patriotism may lead another nation to battle-fields, where hetacombs of useful lives will be sacrificed to the Moloch of insane ambition. Contemplating the rise and existence of epidemics sweeping before it minds which are constituted to lead instead of being led, we cannot close our eyes to the facts that epidemics may arise in small localities, be confined to these localities, and still be destructive of the best of society. When epidemics like these break out, reason has but little sway, and the real teachers, the physicians, in epidemics of that kind are those men who stand at the pulse beat of society. These teachers are no other than lawyers and doctors, their remedy against the spread of mental contagion are the higher understanding, the better knowledge of the laws that govern physical and moral nature. The physician comes in contact with families and individuals. His voice is more potent than that of the preacher or the teacher. He can do more to destroy superstition than any other professional class of men. The lawyer, the administrator of justice, stands at the tower of practical government. Not only as example in conscious fulfilment of his duties, but in the words of wisdom which

fall from his lips may be found the remedy that will destroy the germs of ignorance and superstition before they spread further. A closer and more intimate relation between lawyer and doctor, between men into whose hands the weal and woe of society are committed, can do more towards advancing our civilization, towards removing causes of evil and corruption, towards spreading enlightenment, towards amending human society, than any other means suggestible.

I believe that the spread of medical-legal associations and the public discussion of the questions that touch the mental and physical welfare of society, that concern the health, the growth, vigor, and development of the social structure, can be made instrumental in effecting reformations which otherwise would have to wait many years before they can be effected. Let us study the laws that underlie the spread of mental epidemics. They should be made as much the subject of investigation as the laws that govern physical epidemics, and I belive no organization of men is better constituted to undertake this branch of modern science than medico-legal associations.

THE MEDICO-LEGAL POINTS IN THE CASE OF THE PEOPLE OF THE STATE OF MICHIGAN VS. MATHEW MILLARD.

By Victor C. Vaughan, M.D., Ph. D.,
Professor of Hygiene and Pysiological Chemistry in the University of Michigan.

This case possessed several points of medico-legal interest, and since they have never been formally presented to the public I have thought that such a presentation might not be without profit. The history of the case is briefly as follows :

Early in 1882, Mathew Millard with his wife and child lived in the village of Palo, in Ionia Co., Michigan. Millard was engaged quite extensively in business, carrying on a manufactory of agricultural implements, a general store, a bank and an undertaking establishment. Before the last illness of his wife he sold the undertaking business. Mrs. Millard had suffered for some years with a chronic uterine affection, the exact nature of which does not seem to be definitely known, but which was accompanied by spinal irritation and irritability of the stomach, causing nausea and vomiting.

On the 23d of April, 1882, Dr. Epply was called to see Mrs. Millard, and continued in attendance until her death, on May 9. During this sickness Dr. Pray, of a neighboring town, was called in consultation two or three times. Dr. Epply testified that she complained of pain in the head, distress and burning pain in the stomach, thirst, dizziness, nausea and vomiting. He also stated that she had diarrhœa, but this could not have

been very persistent as he administered cathartics and ordered injections for the purpose of evacuating her bowels more than once during her illness. On May 9, as has been stated, Mrs. Millard died. On the 22d of the following August her body was exhumed and "seven or eight inches of the rectum" placed in one jar, and six or eight ounces of the liver and about one-third of the left kidney in another jar, were sent to Prof. Prescott, for analysis. Prof. Prescott testified in regard to the finding of arsenic in these portions of the body, as follows:

"I discovered what I estimated to be about 15 grains in the entire contents of the large jar, containing the stomach and portions of the rectum, and about 1½ grains in the contents of the smaller jar, which contained portions of the liver and kidney. I estimated that there must have been from 6 to 15 grains in the liver and kidneys, judging from the amount I found in the portions I analyzed."

On the 20th of the following September the body was again taken up and the brain and a portion of the muscles from the calf of the leg removed, and these were also sent to Prof. Prescott for analysis. In these no traces of poison were found.

The prosecution claimed that the husband, Mathew Millard, at various times from the 25th of April to the 9th of May, administered arsenic to his wife, and that the marked nausea, vomiting and distress in the stomach before death, and finally death itself, resulted from the arsenic so administered.

The defence claimed that death resulted from natural causes, and that the arsenic found in certain organs by Prof. Prescott was due to an attempt to embalm the body, undertaken by the husband with the aid of his

brother. They (the husband and his brother) swore that a few hours after death they suspended one teaspoonful of white arsenic in a teacupful of water, and threw one Davidson syringeful of this into the mouth, and injected the remainder into the rectum. The reason for doing this, the husband stated to be that at that time he intended to send to Detroit for a casket, and this would delay the burial for some days. It was shown that Millard did ask the undertaker to embalm the body, and when the undertaker replied that he did not know how, Millard told him to get arsenic (according to Millard's evidence, and strichnia, according to the evidence of the undertaker) and that he would embalm the body himself.

As I propose to give attention only to those points which are of medico-legal interest in the case, a further statement of the claims of both sides is not necessary here. Some of these will unavoidably come up in the examination of the special points.

The attending physician, Dr. Epply, stated on the witness stand that he had an idea as early as the 25th or 26th of April that arsenic was being administered to his patient, Mrs. Millard; but he made no attempt to ascertain whether or not his suspicion was just; he administered no antidote for arsenic; he did not attempt any analysis of the vomited matter and secretions, and after death, when others began to talk of their suspicions, he discouraged a post mortem examination as unnecessary.

Justice Campbell, of the Supreme Court, in ordering a new trial, criticised these statements and actions of the Doctor very mildly, I think, when he said: "The duty of a physician to save life and the duty of a citizen to prevent and expose crime are so manifest that we are bound to suppose the suspicion was not entertained defi-

nitely, or that the symptoms could not have appeared plainly indicative of poison at the time."

I am inclined to think that the general sentiment of both the legal and medical professions would be that the physician who should knowingly allow his patient to be poisoned without using every endeavor to prevent the same should be adjudged *particeps criminis*.

The following is a point of minor importance, but yet worthy of attention. When it became known that Millard would be tried for the murder of his wife, the physician who had attended her went to the drug store and took for a time the prescriptions which he had written for her, from the file. There is no doubt that he did this for the simple and sole purpose of refreshing his memory as to what he had prescribed, but it gave opportunity for enemies to make insinuations.

Since the Millard trial I have constantly used a prescription book interleaved with thin paper, and by means of a carbon sheet I have an exact copy of each of my prescriptions. The advantages in this are so many and so obvious that I will not enlarge upon them.

In the post-mortem examination two serious mistakes were made. In the first place it had been supposed that this woman died of disease, yet at the autopsy no attempt was made to ascertain whether there were any structural evidence of disease or not. The sole object seems to have been to secure certain portions of the body for analysis. The brain was secured for chemical examination, but no one, it seems, thought to look for a diseased condition in it. The uterus and spinal cord, which had received attention from the doctors during life, were not examined at all, and the sole object in taking out the stomach was to ascertain whether or not it contained a poison. To a medical man who has been frequently

called as an expert in criminal cases, it has sometimes seemed that in his desire to convict, the prosecuting officer may neglect to do justice. However this may be, the prosecution in this case would have been much stronger could it have shown that the uterus, spinal cord and other important organs were not altered by disease.

The second serious mistake in the post-mortem examination was the placing of two portions of the body in the same receptacle, and so mixing them that the chemist could not tell whether one or both furnished the poison which he found.

Another serious defect in the prosecution was the assumption in hypothetical questions of facts, which had not been shown or proven by any witness. No one claimed to have any knowledge of the administration of the poison by the defendant, yet one of the questions asked the experts was as follows :

"If arsenic was given in quantities from day to day during a period of 17 or 18 days, sometimes in larger quantities, sometimes in smaller quantities, sometimes oftener, and sometimes not so often, so that ordinarily it would produce vomiting and spasms, and from two to three hours prior to death a quantity of arsenous acid, equaling from 10 to 17 grains, should be given to a patient, and then two or three hours after such administration the patient should die in spasms, and no vomiting occurring after the giving of the last powder before death, what would you expect to find upon analysis of the stomach ?"

In this question the administration of arsenic is assumed, and it had not been proved by a single witness.

In this trial the experts were compelled to listen to the witnesses who testified as to fact, and then when

the expert went on the stand such questions as these were asked :

Q. You heard the testimony of Mrs. Wortman ?
A. Yes.
Q. Supposing the testimony of Mrs. Wortman to be true, were the symptoms which she describes those of arsenical poisoning ?

In this way the expert was made to take upon himself the duty of a juror, and to interpret and measure the value of the testimony given by Mrs. Wortman. The error in this is evident.

Experts on both sides were allowed to quote from books in order to confirm their own statements or to contradict those of an opponent. On this I shall be pardoned for making a somewhat lengthy quotation from Justice Campbell :

No one has any title to respect as an expert, or has any right to give an opinion on the stand, unless as his own opinion ; and if he has not given the subject involved such careful and discriminating study as has resulted in the formation of a definite opinion, he has no business to give it. Such an opinion can only be safely formed or expressed by persons who have made the scientific questions involved matters of definite and intelligent study, and who have by such application made up their own minds. In doing so it is their business to resort to such aids of reading and study as they have reason to believe contain the information they need. This will naturally include the literature of the subject. But if they have only taken trouble enough to find or suppose they find that certain authors say certain things, without further satisfying themselves how reliable such statements are, their own opinion must be of very moderate value, and whether correct or incorrect, cannot be fortified before a jury by statement of what those authors hold on the subject. The jury are only concerned to know what the witness thinks and what capacity and judgment he shows to make his opinions worthy of respect; if the opinion of an author could be received at all, it should be from his own words, not in single passages, but in combination ; and this as has been heretofore held, cannot be done. It is excluded chiefly as both unknown as to value and as hearsay, and an attempt to swear to his doctrines orally, would be hearsay still further removed, besides involving the other difficulty of needing interpretation and responsibility.

The exclusion of reference to books in the courts has been a great advance in the nature of expert testimony. The most absurd evidence I ever heard from the witness stand, given as a scientific fact, was supported by an

"authority." Even good authors were misunderstood and detached portions of the book were given an interpretation of which the author probably never dreamt. In the Michigan courts at present the introduction of a book is allowed only when the witness states that a certain book contains a given statement; then the book may be introduced to contradict the witness. This was allowed in Pinney v. Cahill, 48 Mich., 584. "It was distinctly stated in Marshall v. Brown, 50 Mich., 148, that attempts to evade the excluding rule by examining or cross-examining in such a way as to get an opportunity to get books before the jury, could not be permitted."—Justice Campbell.

The most important question which arose in the Millard case was concerning the possibility of the diffusion of arsenic through the dead body. The chief fight was made on this point. This matter had figured somewhat a few years before in another Michigan case, the People v. Hall (See 48 Mich.) The principal experts were the same in the two cases, and the questions had received some thought and much discussion. Indeed, so far as I know, and I had reason to look up the matter quite thoroughly, the Hall case was the first in which any degree of importance was attached to the question of the diffusion of arsenic, or any other poison, through the dead body. In the Millard case the experts were asked in sum and substance as follows: Granting that white arsenic suspended in water was injected into the mouth and rectum a few hours after death, would it diffuse through the body to such an extent that it would be found in the liver and kidney?

One expert for the prosecution answered this question as follows:

If arsenic were injected into the stomach and rectum after death, it certainly would not reach the liver from the rectum, and I do not think it would reach the kidney. A small quantity of arsenic might reach the portion of the liver in contact with the stomach. I do not think it would reach the kidney by diffusion after death. After death arsenic soon changes to an insoluble sulphide and ceases to separate; this would occur whether administered before or after death.

A second expert for the prosecution was very cautious in giving his opinion, as the following questions and answers will show:

Q. If arsenic was put into the stomach after death, what, in your judgment, is the probability of it passing through into the liver by imbibition or such portions of the liver as were not touched by the stomach?

A. You must give me more factors than that to pass judgment on, I must know whether the cavity of the abdomen was empty or whether it was full of fluid.

Q. Say it was empty?

A. I think if it was empty and the stomach was not lying upon the liver or touching the liver, there would be no imbibition to speak of.

Q. Suppose it was not dry?

A. It would pass. There would be imbibition from one organ to another; because chemists have demonstrated the fact that poisonous substances will pass through a bladder into the water on the opposite side. It is what we call dialysis.

Dr. Kedzie, for the defence, answered the question as follows:

I endeavored to find out whether arsenic would diffuse itself through dead matter in the same way that salt would. I tried to get the experiment in such way that I could see the result. For this purpose I put a quantity of arsenic in a very dense solution of gelatine, which is an animal substance similar in properties to the tissues of the human body. This I put in the bottom of a large test tube. I allowed this to cool so that it set into a solid mass. Then I took some more of the gelatine and put it into the tube, allowing it to cool and grow solid. In this last was put some hydrogen sulphide, so that if the arsenic should pass upward into the gelatine it would be detected by the color. The two portions of gelatine did not mix; they simply came in contact. After a moment there was a little tinge of color where the substance came in contact, and the yellow line gradually widened. At first it was only as thick as a piece of paper; then in 24 hours a quarter of an inch, and the next day still higher, and so on.

The writer, for the defence, testified as follows:

If arsenic should be injected into the rectum and stomach after death, I would expect to find it in the adjacent viscera within 24 hours. I believe

this from my reading and from direct observation. Taylor reports a case where a stomach was wrapped in a piece of wall paper which had been colored with arsenic; the side of the paper next to the stomach was that which was not colored. The next day the contents of the stomach were analyzed and found to contain large quantities of arsenic which had passed from the paper through the walls of the stomach. A week ago last Thursday I took from the body of a person who had been dead but a short time parts of the intestines. I tied one end of a portion of the intestines so that a fluid would not pass through (save by diffusion), injected the intestines with arsenic suspended in water, tied the upper end and suspended the intestine in a dilute solution of hydrogen sulphide, so that as soon as the arsenic should pass through the walls of the intestine, it would show by its color. When I first put it into the fluid there was no coloration, showing that there was no arsenic on the outside of the intestine. After three hours the fluid on the outside was colored, showing that the arsenic had passed through the walls of the intestine into the surrounding fluid. I also took another portion of the intestine and placed arsenic in the same manner inside, then suspended this in a dry beaker, and in about the same time I detected arsenic on the outside of the intestine. If within 24 hours after the death of Mrs. Millard, arsenic to the amount of one-half a teaspoonful had been injected into the stomach and rectum, and the body buried, and examined 105 days afterwards, from my reading and the experiments just given, I certainly would expect to find arsenic in the liver from that injected.

The evidence from the books on the point introduced in the trial beautifully illustrates the wisdom of the learned judges of the Supreme Court in pronouncing such testimony inadmissible. Thus Taylor, in his old, but in many respects admirable treatise, "On Poisons," which was the book most frequently referred to, gives a number of facts which clearly demonstrate that post-mortem diffusion may occur. He refers to the experiments of Orfila and Kidd, which fitted the case in hand exactly, but his conclusions, which are not justified by the facts which he gives, are on the whole against cadaveric imbibition, as he terms it. He says:

The effects of cadaveric imbibition have been greatly exaggerated. Observation shows that it is too limited in extent to affect materially the conclusion usually drawn from the detection of poisons in the tissues. When a dead body is examined for a mineral poison (such as arsenic or antimony) shortly after death, and it is found in the liver or other soft organs, it is a fair inference that it was deposited in them during life.

It must be remembered that the use of arsenical embalming fluids was not so common in 1859, when Taylor wrote the above, as it was in 1882. But on another page he supposes that arsenic should be introduced into the stomach after death from natural causes, and concludes that even in such case the expert would not be deceived and could tell with certainty whether the poison was given during life, or was introduced after death; a conclusion in which chemists of to-day cannot concur.

Several questions subordinate to the general one of post-mortem diffusion, arose in the Millard trial. It will be remembered that the amount found in the liver was large, from 6 to 15 grains. The defence held that this large amount could not have in any probability accumulated in the liver during life. The patient must have died before this amount could have been absorbed. The prosecution having denied the possibility of post-mortem diffusion could not claim that the excess in the liver had resulted from the cadaveric imbibition from the stomach of a portion of the large dose supposed to have been administered just before death.

Again, it was claimed by the prosecution that a solution of arsenic injected into the rectum after death, would not even in part be retained on account of the relaxed condition of the sphincter ani. In favor of this view an undertaker was allowed to testify as an expert. But the learned judge, in reviewing the case, stated that the undertaker

"presented no claims entitling him to give an opinion as a scientific expert, and his testimony was improper so far as it related to anything but specific facts."

The defence held that arsenic suspended in water and injected into the rectum after death, would be largely

retained mechanically, even if the greater portion of the water should pass out.

The defence held that if it were possible for a person to live long enough to accumulate from 6 to 15 grains of arsenic in the liver, at least traces should be present in the brain. In all cases of undoubted death from arsenic, when the brain was examined it had been found to contain the poison. The relative amounts in the brain and liver are variously stated, the smallest proportion being 1 in the brain to 90 in the liver, therefore if one-ninetieth of the quantity found in the liver be a detectable quantity, it should be found in the brain. One-ninetieth of 6 grains is a detectable quantity, and as no arsenic was found in the brain, the large quantity found in the liver could not have accumulated in that organ during life.

With the arguments, substantially as given above, before them, the jury pronounced the respondent guilty, and he was sentenced for life.

After the first trial, assisted by Mr. Dawson, I made some experiments which proved beyond a doubt that arsenic may diffuse through the dead body. A record of these experiments, including an experiment by Prof. Kedzie, may be found in Vol. 1 of the *Journal of the American Medical Association.* Similar experiments have since been made by a number of persons with like results.

On the second trial only one additional scientific question of importance came up. The prosecution had attempted to detect arsenic in the soil on which the vomited matter had been thrown, some months before. Finding no arsenic, the prosecution claimed that it had been washed into the deeper layers of the earth and distributed in every direction. The defence held that the arsenic became fixed in the soil by combination with

iron and lime, and would not be washed out by rain. They explained the non-absorption of arsenic by potatoes, after Paris green had been extensively used on the vines, by the formation of these insoluble salts. The fixation of arsenic in the soil has since (1885) been experimentally demonstrated. (Comptes Rendus, 100, 1889.)

On the second trial the respondent was acquitted.

VOLITIONAL INSANITY.

AN INQUIRY INTO THE RELATION BETWEEN DEFECTIVE INHIBITION AND CRIMINAL RESPONSIBILITY.

By Austin Abbott, Esq., of the New York Bar.

Why is it that the law, which generally follows the teachings of science, has thus far refused to do so in regard to what is called moral or emotional insanity? Medical men have explained again and again that there are deranged minds in which the capacity to distinguish between the right and wrong of an act exists, while the power of self-control does not exist. But the law, in most of our States, still holds the right and wrong test to be the sole criterion. This point of controversy between Alienists and Jurists is the most important subject on which science has yet to instruct and convince the law.

I desire to call attention to the present state of this question; to set forth the reason why the law thus far refuses to accept the medical doctrine on this point, and to put before medical experts the questions upon which the law needs clearer instruction than it has yet had, in order to remove this anomaly, and bring Criminal Jurisprudence up to the level of scientific knowledge on this subject.

I do not assume to speak with the authority of an Alienist of medical experience. Simply as a lawyer, in sympathy with what I understand to be the teachings of science, I speak to medical men, to explain why *our* science, the art of governing, has not yet accepted the

teaching of *your* science on this point. If I shall succeed in making clear to you what is needed in order to enable the law to do so, my object will be accomplished.

At the outset, notice the radical difference in duty that the subject of insanity presents to the two professions. The medical man's duty is preventive and remedial. He is bound to recognize mental disorder in its earliest incipient forms. A patient showing by the slightest abnormal indication that he has commenced in the least degree to diverge from the path of mental health, the physician is bound to regard as to that extent deranged; even though this man may never reach a degree of alienation sufficient to raise any question of criminal responsibility. On the other hand, the judge is part of a tribunal which is responsible to secure the peace, order and safety of the community, by applying force to restrain the irregularities of conduct which threaten it; and he is bound by an equally cogent obligation to apply that restraint even to the physician's patients, unless their exemption is consistent with the substantial and continuous maintenance of justice.

It is not, therefore, enough to convince the law that a crime would not have been committed but for disease. The law cannot confine itself to dealing with healthy criminals. It cannot keep the peace if it allows disease as such, whether mental or physical, to be an exoneration from responsibility. It, therefore, draws the line, now, at criminal intent.

To use an illustration I have used before, if the strongest advocate of the doctrine that inebriety is a disease which takes away criminal responsibility were now put in charge of the police force of this city and held responsible for the protection of life and property here, he would not instruct his captains that inebriates should

go free. Much less would he wish to instruct the police justices that a culprit taken in the act when intoxicated should be sent to the Island, if he were a sound and healthy man caught in the mischief of the first intoxication of a social drinker, and might, perhaps, never indulge again; but that if he were proved to be a confirmed dipsomaniac who would inevitably offend again and again, he should be acquitted because diseased. Under existing arrangements, the medical expert, if administering the law, would enforce the law against inebriates, not because of deeming them fit subjects for strictly penal justice, but because the medical intelligence of society is not yet sufficiently aroused and powerful to provide hospitals and asylums in which to segregate them, instead of prisons.

But while on the one hand it is not enough, in order to accomplish the purposes of science, to show disease affecting the mental action, it is not enough to confine your claim to those in whom disease, as that word is commonly understood, exists.

In the present condition of the subject, medical experts commonly appear to consider that a case of disease must be made out in order to exempt from criminal responsibility. I wish to point out that in the medical sense the term "disease" includes departures from the normal type of organization, or balance of mental forces, which it does not include as understood by the general intelligence.

And I wish to put this question: Ought not medical jurisprudence frankly to take the position that inability to exercise self-control is to be discerned and recognized irrespective of disease; and if it be permanent, it must take the subject out of the category of penal justice whenever and wherever proper custody and care can be

provided? In other words, insanity should no longer be treated by medical experts as solely a question of disease. It is often, to the common understanding at least, a physiological, rather than a pathological fact. Or if, in a technical sense, all abnormal mental action is still to be regarded as being in the domain of pathology, the attempt to interpret it and to establish the resulting test of responsibility in the judgment of men not medically trained should be made, not by describing it as a disease, but by explaining its existence in those forms in which it is perfectly consistent with what is commonly understood as health.

I believe the community are more ready to receive and accept your conclusions than is generally supposed. But it is difficult to persuade them that disease exists in all cases where you see it. The law will not infer disease from misconduct alone. You wish to satisfy legislatures and courts and juries that there are organizations in which the power of self-control has been lost or has never been developed, and that such cases are not fit for penal justice except where there is some possibility that self-control may thereby be developed. You will find it easier to do so without attempting to satisfy them that such organizations are necessarily diseased.

Let me endeavor to set forth the conceptions of mental function which you have to meet and satisfy in dealing with this subject. Many of you can do it far better than I can, if your attention is once directed to the purpose.

Nerves, as communicating sensation or volition, have often been compared to telegraphic wires.

Recent advances of physiology have carried the illustration a step further, and suggest contrasting the nervous system as a whole with the telegraph as a whole.

If we could rise above the earth, gifted with power to

see the entire network of telegraphs, as the globe turns under our eye, and to discern the electric excitations, and the vast human activities dependent on them, we should witness a singular spectacle. When the risen sun, approaching the Atlantic coast, brings the morning hour of eight to the meridian of Washington, the batteries have begun to rouse themselves from the partial quiescence of night, and a thrill of universal excitement quivers through the vast network, carrying the morning weather-bureau report over the land to every seaport, every village, and almost every post-office within the area of activity, and the morning greetings of thousands of operators begin to chatter along across the continent. Soon business messages begin to pour along the wires and through different channels from the first. In due course the wires of the Exchanges, which have been lifeless for nearly twenty hours, begin to engross the energies of the system and set thousands of tickers in motion; and until after the close of bank hours almost all the electric force of the country is centered in that part of the network of wires which is devoted to business and commercial interests. As business activity gradually slackens, passing westward with business hours, social and domestic messages increase, political news rushes in from the legislative centres, and with press messages these mark another change not only in the subjects of communication, but in the locality of activity. If, during a day of such routine, some startling event of world-wide interest occurs, such as the outbreak of war or the assassination of an emperor, it supercede the ordinary currents, and the electric activity which a moment before was centered in but part of the system now quivers through every wire to its remotest ramifications.

In a similar way the nervous forces of the human system shift their play, being centered now in activities of what are called the vital functions, and reflex action; and again, without wholly suspending these, extended more actively to the higher centres of the brain and expending there for a time their chief force. The degree of actual force required to carry on the vital functions of an average man for twenty-four hours has been estimated by recent investigators at an aggregate which is astonishing. Whatever it may be, it is probable that activity in the higher centres of the brain requires a far greater proportion of that force than is commonly supposed. This fact may easily be realized when we observe that a man engaged in muscular efforts stops muscular effort in order to think; and that the incessant activity of even a child is suspended as soon as his mind is actively interested in a story.

This, then, is a rude outline of our common knowledge of the organization with which medical jurisprudence has to deal on a question of criminal responsibility. It is an organization of given capacity, and possessing only a given force, and that force wholly inadequate to active operation, in the highest degree, of all parts of that capacity at the same time. The attempt to excite fully all parts of the nervous system simultaneously would cause death.

It is now well understood that parts of the brain have the characteristic function of inhibiting or restraining for a greater or less time the natural and ordinary activities of the other parts of the system, and of introducing, through the element of time and the modifying influence of previous impressions, entirely different results from what would follow without such inhibition.

But inhibition does not appear to be an economy of

nervous force. It is a greater expenditure of nervous force in the brain to diminish expenditure in muscular action. It is from the activity of these inhibitory centers that man ceases to be a creature of impulse governed by reflex action, and possesses the power of self-restraint.

So long as these centres of the brain are unawakened or undeveloped in infancy, the child remains a creature of impulse, and both its passions and intelligence appear to follow the law of immediate reflex action. The manner by which these centres are chiefly awakened and developed according to existing methods of education, is by the use of rewards and punishments. To use a homely illustration, if a young and untrained dog sees the meat upon the table, it is a simple process, not perhaps in any degree beyond the scope of what is termed reflex action, by which he is irresistibly impelled to seize it. The process of training that dog consists in administering a series of punishments, the result of which shall be to bring into activity such inhibitory centres as his brain may possess, so that in course of time, by being persistently punished for that which originally he could not help doing, he acquires the power of self-restraint. The physiology of the process may be described as little more than developing into activity the inhibitory centres in connection with the organs of special sense, so that at last the sight of the bone, while it will awaken in him the same desire as before, and perhaps a stronger desire on account of his greater age and strength, will awaken at the same time, and in connection with it, a sense of the discipline he has been through ; and the effect of calling both classes of centres into activity at the same time, is a regulated conduct instead of an impulsive conduct.

If the inhibitory centers, once developed, are impaired by injury or benumbed by intoxication, self-restraint is so far precluded. If they are permanently deprived of predominant power by habitual inebriety, it may well be that self restraint can never be restored, and that it will be useless to go on with punishments, the real chief object of which is to awaken the power of self-restraint in those in whom it is as yet not adequately developed.

It is probable that the effects of alcohol upon conduct are wrought either by directly impairing the capacity of some of the inhibitory centers or by engrossing the activity of the nervous force in lower and more animal functions, and thus withdrawing the force which in the natural condition would bring the inhibitory centers into play. The conduct manifested in the progress of intoxication corresponds very closely to that which would be produced by the successive suspension of one restraint after another, in an order which varies doubtless with different individuals, but may be characterized in a general way as the suspension, first of the usual caution or self watchfulness, then of the sense of decorum, and, as if the activities that previously were engrossed in these functions, set at liberty, added their strength to the stimulation of other functions—speech is more impulsive, wit is quicker, and acceleration shows itself through the rest of the system. As intoxication increases, other restraints upon conduct appear to be deprived in turn of their efficiency, and the active animal passions engross the forces of the nervous system; but with still further progress in intoxication these in turn have their activities suspended, until at last respiration and circulation manifest what little activity is left.

To the general observation of intelligent men without special medical training, such as compose our courts and

juries, the loss of the power of self-restraint, or the failure to have that power developed, is best understood without translating it into terms of disease, except in those cases where there is evidence of disease intelligible without medical education.

It seems necessary therefore, if my interpretation of the common understanding of those charged with the administration of justice is correct, that medical jurists in order to put irresistible impulse in its true place in the doctrine of criminal responsibility, should abandon disease as their sole or chief test, and in place of it demonstrate two things: First the ability of medical experts to distinguish with safety between those classes of cases on the one hand where the development of self-restraint is impossible, or where it has been hopelessly destroyed, and on the other hand those cases where, although it does not exist, it is still the proper function of criminal justice to develop or to restore it. Second, it must be shown that the classes to whom self-restraint is impossible can be safely and properly segregated from society so far as necessary to its safety and peace, under medical care, instead of as now under penal supervision.

To sum up conclusions: it appears that cases of impulse considered with reference to criminal responsibility classify themselves in several groups, the chief of which are:

1. Irresistible impulse the cause of which is some lesion or other physical disease of the brain. For this class you can secure immunity from penal law as far as you can show disease by better evidence than the fact that the misconduct is otherwise inexplicable.

2. Impulse not resisted because the power of resistance has never been developed. This class is to be punished in such manner as to promote its development.

3. Impulse not resisted, because the power of resistance once possessed has been hopelessly lost by indulgence or by impairment of nervous force. This class it is safe to say will be committed to your care instead of penal institutions, whenever under your instruction and direction suitable places of treatment are provided to a sufficient extent.

4. Impulse not resisted because the power has been temporarily impaired, but not beyond recovery. In respect to these, it is for you to make clear whether penal or medical treatment is the proper method.

To further these ends I urge that prisons, poorhouses and asylums should be organized under medical direction, on civil service principles, and utilized for the systematic investigation of the physiology and pathology of pauperism, insanity, inebriety and crime, to the end that the laws may be made more humane and more efficient, that all who are reclaimable may be restored, and society permanently protected against the incorrigible.

AN EXTRAORDINARY CASE OF FEIGNED NERVOUS DISEASE.

(*The case of Willie Maier, of St. Louis.*)

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Last fall there occurred in the City of St. Louis, a case of feigned convulsive seizures of great Medico-Legal importance.

Willie Maier, a boy of some 14 years, whose school teacher had asserted to Prof. Fry, whose name figures in this case, "that he was the smartest and worst boy she had ever known," is the subject of this paper.

On October the 13th, 1889, whilst the dog-catchers were engaged in their official duties, this boy stoned and exasperated them, and as a result thereof Willie Maier was somewhat roughly handled by the assailed dog-catchers, but was in no respect injured, simply being placed upon the dog cart and carried off a block or two on the wagon which contained the captured dogs.

As a result of this somewhat unfortunate prelude, it was claimed that the boy sustained a somewhat grave nervous shock, and that peculiar protean nervous manifestations which I shall describe later on resulted.

I was requested by Judge McBride, the boy's attorney, to visit the boy professionally to determine as an expert the exact condition of the alleged exisiting morbid nervous manifestations.

I paid a visit to him and witnessed an alleged convulsive paroxysm which I shall not describe at present, as it

corresponded with other seizures which I subsequently witnessed.

I was satisfied at first sight that the so-called fit was unequivocally fraudulent, whatever may have been the motive which suggested it, not improbably one for the desire of morbid sympathy or revenge.

A week or two later I paid a subsequent visit and witnessed another paroxysm with the same result as above described. On this occasion I was accompanied by my son, Dr. W. K. Bauduy and Prof. Frank Fry, of a rival medical college, whom I had invited to share the responsibility of the investigation:

A *Globe-Democrat* reporter, who accompanied us, wrote a full and accurate description of what occurred.

Now I will give a description of what happened during the alleged paroxysms manifested at both our visits:

Arrived at the home of the boy, there were some preliminaries which seemed to indicate that the family, owing to the number of visitors who had flocked to the house, looked upon these visits and the behavior of the boy in the light of something like a public exhibition. The mother and the boy's sister strenuously endeavored to get him to come from some place of concealment for manifestations which now seemed to be upon the programme.

The lad was morose, profane, not tractable, and the effort was temporarilly frustrated. On this occasion the professional visitors occupied their time in ascertaining the medical history of the case.

The boy, it was stated, was growing worse. That he had an average of twelve paroxysms, or, as they called them, "fits" a day, that he seemed to have no pain, but for three weeks had not left the house; the fits came on very irregularly, and without any *warning* (aura-epilep-

tical); that he had never in all the months that he had been afflicted injured himself in any way; that he frequently bit and snapped like a dog and tore his clothes and other things with a vicious recklessness, but had never yet bitten himself or any one, and had never injured himself in any manner in any of his falls. The boy's sister volunteered a queer story to the effect that the boy had recently discovered by pressing his finger on a spot, known only to himself, on the back of his neck, that he could completely stop the pulsations in his wrist and very materially affect the action of his heart, at times causing it apparently to stop beating. This all the women present said they had tested repeatedly. On top of this singular story came the statement that the boy had developed an exceeding tenderness about the back of the neck and under the chin; it was said that the weight of the hand in either place or on his stomach would always cause him great pain or throw him into a fit.

It was stated that he was wasting away very perceptibly, could eat only one meal a day, but drank a great deal of coffee and smoked cigarettes. His sleeping place, they said, was on the floor under the table.

The boy was now approached; he was sitting in a corner between the stove and the kitchen table and completely hedged in with kitchen utensils of various kinds. He was leaning with his head on his arm on the table, and his face was concealed. In fact he kept his *face concealed almost all the time*, and despite the most strenuous efforts, not one of the visiting party got a look at his features.

He was asked to come out where he could be seen, but flatly refused to move from his position. He cursed his mother and sister, and in fact every one who sought to

induce him to move, and seemed to evince a special fear or hatred of *me* in particular.

Prof. Fry then stepped to the front and having in view the statement that the second cervical vertebra had been fractured, laid a hand on his neck. Immediately the boy flew into a rage, and rolling his head from side to side on the table, abused and cursed the doctor, saying he pinched him. "D——— you, I don't care who you are, I don't care for anybody; you pinched me and hurt me."

This and similar expressions were repeated as Mr. Fry undertook to examine him, but there was no sign of a fit. Then the doctor touched him on the right side of the head and he jerked away, moving his head as far as possible to the left. The doctor reached over and touched him on the left side, and back the head came with a jerk to its former position. This seemed to satisfy Dr. Fry on the point he was considering, and he stepped back saying to the reporter: "No fracture or dislocation there."

Then my son, Dr. Keating Bauduy, and the reporter exercised their powers of persuasion, but failed to get him out of his chair. Movement was made as if to resort to force, but the mother and sister objected violently, saying he shouldn't be hurt.

This necessitated a retirement, at least for a time, and the boy was left as he had been found.

"Isn't it strange," his mother was asked, "that the efforts to get him out of his chair did not throw him into a fit?"

"No," she replied; "Sometimes he gets very mad and fights with his brother, but doesn't have a fit, and sometimes the least excitement to anger brings one on. You can't tell any thing about them."

"Does he fall forward or backward?" "Generally backward; sometime, every way." "Is he rigid, and does he froth at the mouth and bark every time he has a fit?" "Not all the time. Sometimes he is stiff, sometimes limber. Every time it is different."

Repeated questions in this line failed to establish the general prevalence of any symptom or set of symptoms, the usual answer being "It's every time different."

After the lapse of probably twenty minutes, word reached the waiting investigators in the upper room that the boy had a fit, and a hurried move to the kitchen was made. There, sure enough, he was found in the middle of the floor, rolling over and over, his red jersey cap pulled down so as to completely conceal the upper half of his face, and his arms clasped about his head. "He's got a *rolling* one this time," said the mother. "How did he get out in the middle of the floor?" She was asked. "He fell," she said, "and rolled here." "Did the fall hurt him?" "I guess not; he never hurts himself."

For five minutes the investigators stood over the boy as he rolled about the floor, kicking violently with both legs.

Then Dr. Keating Bauduy suggestively and leadingly said: "Why, usually, in such cases, they only kick with one leg." Almost immediately, the left leg was drawn up and kept in that position, while the other was kept in rapid motion.

Then Dr. Fry stooped and laid a hand on his head. Immediately the boy snarled like a dog and fairly sprang away. Another effort to touch him brought remonstrances from members of the family. The reporter then volunteered the hint "That they usually lie flat on the face." The words had hardly been uttered when the form on the floor flopped over, lay stretched out straight,

face down. Then Dr. Fry placed a hand on the back of his neck, and despite the struggles of the boy and violent protestations of the women present, proceed to look for the alleged fracture.

The boy half turned and snapped at the Doctor's hand. "You bite me and I'll slap you, sir," said the Doctor. The head dropped and the snapping was not repeated, but the body turned and writhed from under the Doctor's hand. The women in the room heard the threat to slap, and for about three minutes pandemonium reigned supreme. "You shan't slap him" shrieked the mother and sister in one voice, as they rushed toward the Doctor. Others interferred and the women were quieted. "He seemed to hear that" said the reporter to the mother. "Is he conscious?" Well, *he is* conscious and he *aint* conscious," she replied. "I guess he heard." The sister brought a pillow and gave it to the boy, saying : "Here, Willie, take this so you won't hurt your head." He grabbed it, and burying his face in it, rolled over and over until he was well under the table and against the wall. There he stretched out and lay perfectly still ; All parties present squatted down, and I suggested that there had been no *barking*. Almost instantly the boy began to bark. It was then suggested that the dogs in the wagon where he was thrown in were all not *little* dogs, and it was asked if he ever barked differently." "Oh, yes," was the reply, "he sometimes barks differently." As if to substitute this assertion the bark changed to an imitation of the *deep bay* of a *full grown mastiff*.

"But," said I, "he seems to move both feet," and then turning to Dr. Keating Bauduy, I said: "You know all the authorities say in genuine cases of this kind the patient does not move both feet at this stage, but accompanies the bark with a pounding and drum-

ming on the floor with one foot." No; he kicks with all his feet and his whole body shakes," said the mother. "That may be true in this particular case," said I, "but we are taking of similar cases the doctor books tell about. Now, just take that lamp around there so we can see his feet plainly, and perhaps this *symptom* will show itself." The lamp was moved and in a few seconds the barking was renewed, this time there was a drumming accompaniment on the floor with one foot, in perfect unison with the barking. A few other simple things in the same line were done, when the sister: said "He's getting *stiff* now, mother," and the boy's legs stiffened out. In this position he remained for about five minutes, when he suddenly rolled over and rising suddenly to his feet resumed his seat in the corner with his face resting on his arm on the table. This ended the examination and the visitors prepared to depart. "What do you think of it?" the reporter asked me. "Simply what it appears—a fraud," said I. "What is your opinion?" Dr. Fry was asked. "Plain fraud," said Dr. Fry.

The party then left the house, and later in the evening the reporter sought me and asked for a formal statement *or* an interview. I hesitated, owing to the unpleasant notoriety the matter was about to bring me, but finally consented to answer a few questions.

The first question was as follows: "In the case of Willie Maier will you tell me what examination you have made, and what conclusions you have arrived at?" To this I replied: "I have made two professional examinations with an interval of about two weeks, and I know he has neither hydrophobia nor epilepsy." "Then I am to understand that you consider the boy a fraud?" "I would rather not answer that question."

"Do you think the boy is a victim, as appears, of a fearful nervous affection, or do you think the symptoms he exhibits are feigned?" "*I know* all the symptoms manifested in my presence were *feigned*." "In your observations of the case and surroundings, do you think the boy is deceiving his family?

"We have simply to deal with the *scientific* nature of the case. All questions not pertaining to the scientific phases of the matter will have to go unanswered by me." "Will you please state what tests you applied, and how they resulted?"

"We applied the ordinary scientific, professional and personal examinations. You were present to-day and saw and took part in what we did, and the results you can state from your own knowledge. I saw just what you saw, and do not hesitate to say plainly that I think the paroxysms we saw were feigned. I did not, however, feel like taking the entire responsibility in the matter, and therefore invited Dr Fry to go with me. I will state that I know he fully indorses my views, but I wish you would see him?"

Dr. Fry was seen and asked what he thought of the case. He said he did not hesitate a minute to say the boy was a malingerer. "Then you think the symptoms we saw to-day were feigned?" "Yes, sir; for a fact. The boy is a rank fraud." "How about the alleged fracture of the vertebra?" "That is simply a hoax; it is impossible for such a thing to be and the boy to have the control he has of his head". Then Dr. Fry went over the day's developments as related above, aud repeated his assertion that the boy was feigning. He supposed the boy had been frightened, and probably severely shocked by his treatment, but his condition was not what it appeared.

Dr. Keating Bauduy, who was one of the party, was then sought, and asked if he thought the boy was a fraud. He replied: "I will only say I have utterly failed from the symptoms evinced in my presence, from my personal observations and information that has reached me through other sources, to make a diagnosis of any particular nervous disease in his case.'" "From the symptoms, what diseased condition would result from the *shock* the boy is said to have received?"

"The differentiation we would have to make in this particular case would be between hydrophobia, hysteria, epilepsy and hystero-epilepsy." "Then you consider it a case of deception?" "This question I decline to answer, not wishing to enter into the moral aspect of the affair, only being willing to discuss it from a scientific standpoint."

Learning that Mr. J. H. Simons, a student at the Missouri Medical College, had at my request made a careful study of the case, the reporter sought him. He said he had visited the house twice, spent may hours in the boy's company and played cards with him. His observations are embodied in the following notes taken on January 3d:

1. Concerning his *character*.—He played almost any game of cards, displaying a wonderful dexterity for his age, and cheating with the skill of a professional gambler. He smoked cigarettes in the presence of his mother, and used the language of a typical street boy.

2. Concerning the *time* of the *paroxysm*.—He played cards for three hours, giving no evidence of nervous trouble; but when Mr. Smith, another medical student, and myself mentioned going home, he immediately fell over.

3. Concerning the *manner of the fall*.—His position

was such that, losing his consciousness, he would naturally, from the force of gravity, fall *forward* and a little to one side, but instead of this he threw himself *backwards*, taking the chair with him.

4. Concerning *loss of sensation.*—He rolled about the floor, assuming various positions, growling and snarling like an angry dog.

Upon investigation, I found his pulse and respiration normal ; when I pricked his arm with a pin he flinched from it and drew his arm away.

5. Concerning *voluntary motion.*—I asserted loudly, so the boy might hear, that it looked much like hydrophobia, but that patients thus afflicted always rolled over and rested on their elbows with the head downward, and the boy immediately rolled over, rested on his elbows and lowered his head to the floor.

6. Concerning *voluntary motion.*—I asserted that I was almost certain of the diagnosis of hydrophobia, but that there was one symptom wanting, viz : spasmodic kicking of one foot. At once he performed a series of short kicks, a thing he had not done before.

7. Concerning the same.—I mentioned the position of opisthotonas, inquiring whether he ever bent backwards, etc., which he proceeded to do forthwith.

8. Concerning the *voluntary stiffening* of the body—His mother entered the room at this juncture, and (the boy now having ceased growling and snarling) drew our attention to the rigidity of his body. Taking him by the feet, she raised his whole form from the floor while his head remained down. Placing my left hand upon the *exterior* muscles of the thing I felt that they were *relaxed.* Leaving my left hand in that position, I then took hold of his feet with my right to raise him, and *immediately the muscles of the thigh were put on guard.*

The same occurred in the muscles of the lumbar region and of the abdomen.

9. *Concerning respiration.*—I expressed my surprise at the regularity of his respiration and before thirty seconds had elapsed the breathing was *accelerated* to such a degree as to resemble *panting.*

10. *Concerning the muscles of the eye.*—The pupil was neither contracted nor dilated ; the muscles of the eye globe were normal. The lids were closed gently as in sleep, but when I endeavored to open them they were tightly pressed together.

11. *Concerning the muscles of the mouth.*—There was not present pinchedness of the features nor the sardonic grin ; on the contrary, when his mother said that he often whistled during the paroxysms, his mouth and lips rather puckered and emitted a whistling sound. This did not remain for any length of time, but came and disappeared several times, not presenting the characteristics of spasmodic, involuntary contractions.

12. *Concerning the disposition to bite.*—During the paroxysm a piece of cloth was thrown to him upon which he might vent his fury. Being new, it was not readily torn. I remarked rather loudly that he was not afflicted very badly, otherwise he would tear the cloth worse. Thereupon he took hold of it with both hands and with his teeth and tore it into shreds.

13. *Concerning absence of injuries.*—He has twelve or more fits during the day, as his mother says ; but although he is taken suddenly and the fall is always unexpected, I could find no *scar* or other evidence of *injury* about his body. I also observed that, although he rolls about in every direction, he takes *precious* care of his head and other tender parts.

14. *Concerning disposition ot bite.*—He several times

got his hand into his mouth during paroxysms, but he never bit it enough to hurt himself or draw blood from the skin.

(Signed) J. H. SIMON,
Student Mo. Med. Col.

In this connection it may be stated that both I and Dr. Keating-Bauduy unhesitatingly indorsed Dr. Simon and even admitted having sent him there for the purpose of obtaining accurate information by close and continuous observation, as he was one of our most brilliant students.

This constituted the history of the case as taken from the Globe-Democrat reporter and the official history of our investigation. The dog catchers were held over in individual bonds of $15.000.

The case was tried in the Criminal Court last month. During the trial the boy was seized, as I predicted he would be, with a fit in Court.

The peculiarities of these manifestations I shall now attempt to describe and give a philosophical synopsis, analysis and synthesis of phenomena.

There was no epileptic aura, no pallor proceeding or developing during the initiatory phenomena of the symptoms of the attack; no subsequent flushing or vaso-motor paralysis of the countenance. He did not fall forward with explosive or co-ordinated muscular force; resisted only when touched by investigators. Barked, growled, pulled his ear, and his ear when pulled was withdrawn, his head likewise. Face always CONCEALED, tearing efforts at clothing, shaking of his head vaguely grabbing at indefinite objects, rolling on the floor, consciousness not lost, for he withdrew his arms when grasped; FIRST convulsive period was not one of rigidity or *tonic* spasms; total absence of asphyxia.

Second stage developed no condition of *clonic* convul-

sions of any known type. When the paroxysm first developed itself the boy slided off the chair, which act was purely voluntary and which is proven from the perfect co-ordination of his muscles and apparent predetermined efforts to attain his object, namely, to get off and on the chair and not to hurt himself. No automatic or involuntary effort of any muscular character was present. During his efforts at biting the medical student with impunity placed his hand to the boy's mouth.

He tore into fragments a heavy leather cushion, which was considered a stupendous feat of strength by the by-standers. I subsequently with my own teeth accomplished the same feat. During his barking and biting paroxysms in the presence of the Court I offered to let him bite *my arm* to the bare bone, but the Judge declined the proffer, and I subsequently threw down the gauntlet to the medical profession of the entire world that any physician who had examined him in an alleged paroxysm who would state that the fits were genuine was either a "knave or a fool."

During the initiatory symptoms of the convulsions sobbing of a quasi-hysterical character manifested itself, whilst, with concerted co-ordinated and resisting efforts, he held his hand to his face *concealing* it from the view of the bystanders, whilst rolling all over the floor in a feigned fit, creeping under chairs, articles of furniture and the skirts of screaming and frightened ladies.

The sensation in Court was profound and the Judge declined to allow me personally or physically to examine the boy, which I greatly regretted, desiring to apply Briquet's pathognomonic test to ascertain the existence or absense of an anaesthic Spiglottis thinking that brystensal complications might have possibly existed.

Also during the initiatory developments his head rolled and dropped back with not the slightest evidence of tonic or clonic muscular rigidity and total absence of initiatory inflexibility, bar-like rigidity of voluntary muscles or spastic conditions of involuntary muscles. Absence of consciousness was evidenced by concerted voluntary efforts, marked resistance on all attempts at touching or irritating him and never absent manifestations which occurred in all previous fits witnessed, of fraudulently holding the hand to the face in order to conceal his countenance.

His fall from the chair indicated determined effort not to injure himself, falling more like a hysterical woman on a bed of roses instead of into the yawning abyss of hell.

The paroxysm continued unlike *true* epileptic attacks, the boy rolling all over the floor kicking, gritting his teeth, barking, snapping and biting.

During every paroxysm which I witnessed his countenance was not turgid or cyanoized, face always turned towards the floor, *violently* and *persistently* resisting every effort of by-standers to see HIS *face*.

During the paroxysm he grasped with his teeth and hands the round of a chair, and a physician present, in lifting the latter, upraised the boy without the latter loosening his hold. Breathing was not suspended, impeded or disturbed during any period of the manifestations.

Opisthotonos, emprosthotonos or pleurothotonos were entirely absent. There was no EXPLOSIVE convulsive manifestation of any kind during the entire paroxysm; pupils were normal, responding to light at all times; neither contracted nor dilated, nor any apparent insensibility of palberal mucous membrane. Mucous membranes generally were normal, not even turgid.

No genuine muscular morbid manifestations belonging

to any recognized nosological classification existed; no continuous, intermittent or remittent genuine spasms.

The fit was a *wretched* attempt at morbid HYBRID developments and simulated feeble symptoms of epilepsy, hysteria, catalepsy, hydrophobia and hystro-epilepsy. In a word, a very poor imitation at malingering.

As is well known, hydrophobic patients never bark; the idea of a patient's barking is absurd; only a relic of ancient superstition.

He did not froth at the mouth; uttered no epileptic cry, did not bite his tongue; sphincter muscles did not relax in the least. He took the fit whilst excited, which contradicted his mother's statement that the paroxysms came on during quiet intervals. There was no evidence of catalepsy, for his muscles did not remain in the fixed positions in which they were when he fell, nor was he unconscious.

The pivot on which the diagnosis revolves was the never absent manifestations of perfect consciousness. The fit which occurred in court, and which I predicted, and which I never would have attempted to do had I suspected them to be epileptic or appertaining to any other genuine manifestations of epileptoid or epileptic form of disease, figured on the programme exactly as I had anticipated.

It is unnecessary to dilate any further upon these alleged morbid conditions. From the preceding remarks epilepsy and catalepsy are plainly excluded. Hystero-epilepsy is not to be taken into consideration, the four periods of which were not developed, namely:

1. The epileptoid period.
2. The period characterized by contortions.
3. The period of emotional attitudes.
4. The period of delirium.

The contortions observed in this disease are often indeed horrible to witness. The arms and legs may be placed in the most revolting attitudes. Hallucinations of sight occurring in this dire affection were absent.

Paralysis, anaesthesias, hyperaesthesias, analgesias, parathesias and perversion of the special senses never occurred.

In this connection it may be remarked that a very reputable physician, a man of immense and very matured practical experience, a physician of great professional erudition and reputation, Dr. Thos. O'Reilly of this city, once thought he witnessed in this boy an attack in which there existed loss of consciousness, dilatation of the pupils and absence of cutaneous sensibility, with accompanying sensory impairment, if not abolition, of the conjunctival reflexes.

These phenomena, with the Doctor's concurrence, I interpreted and ascribed to hypnotism, the result of "*expectant attention.*"

The protean manifestations add possibilities of hypnotism are too well known to the profession to need description.

Other diagnostic differentiations may now be excluded. A prominent St. Louis physician recognized this case as one of "*lysso-phophia*, which, literally interpreted, means "fear of canine madness." or *pseudo-hydrophobia.*

Gowers, the most recent neurological writer, in his admirable systematic book on "Diseases of the Nervous System," makes the distinction between this last named malady and of *genuine* hydrophobia to consist in the absence in the former of spasm of the respiratory muscles, especially those of the glottis, diaphragm and auxiliary muscles of respiration, although he even admits the non-

existence of these concurrent morbid conditions in some rare and exceptional forms of hydrophobia itself.

In Willie Maier's case no such symptomatic developments ever occurred. There, moreover, existed at no time any of the other protean manifestations, sequela or peculiarities of developed "*lysso-phophia*," either physical, psychical or emotional.

In this connection we can also exclude from the range of differential diagnosis all rare forms of psychososes which are embraced in the domain of modern psychology, and the salient features of which are pregnant with interest to the neurologist, but more especially to the alienist.

Every tyro in mental pathology fully recognizes the fact that no dangerous or fully developed forms of mental alienation reach full and matured development in a few hours, or even days. In all *antecedent* conditions of insanity, "*change of character*," heredity, "*want of harmony* in one's social relations," and a multiplicity of concurrent stiological factors, states and sequences necessarily antedate, as Maudsley, Blandford and all modern classic authorities on mental disease claim, the final culmination of the outburst and establishment of fully developed insanity. "Typho-mania," or "acute delirious mania," in this regard might constitute possible rare exceptions, but, in such instances, temperature abnormalities and pulse variations, the result of quantative and qualitative blood changes, unmistakably weld the links of a pathological chain of sequences which will prevent cautious diagnoscients falling into such sources of error. Such central facts are the pivot upon which the diagnosis turns.

We can exclude all such conditions and complications from this remarkable case, and in corroboration of this

standpoint must not forget the presence of mental and emotional perversions in genuine hydrophobia, symptomatic, as they necessarily must be, of a storm-tossed, nervous system, just as the delirium of typhoid and other forms of continuous fevers inaugurate as a result of general blood-poisoning, similar consequences implicating the nutrition of the nerve centres bearing simply the relation of cause to effect.

In this case we must recall the fact of a positive exclusion of the presence of all peripheral, afferent, eccentric or centripetal factors of nerve irritation which, according to the well-known physiological theories of Marshall Hall, Claude Bernard and Brown Sequard, but too frequently result in reflex irritations and disturbances of the medulla oblongata or spinal ganglianic centers, resulting in the group of neuroses or epileptic, epileptiform, epileptoid, hysteroid or tetanoid developments.

The only lingering suspicions of doubt which possibly enter the minds of earnest investigators of this case after thorough efforts at diagnosis by differentiation or exclusion are attempted, will be a *suggestion*, though a *feeble* one of shock to the nervous system, resulting in neuraesthesia so ably described by Beard of New York on some protean manifestations of hysteria.

The medical profession well know the possibilities. if not the probabilities of nervous shock.

In the first place sudden death might ensue from expansive, unexpected, and *explosive* liberations of *overwhelming* nerve force through the labyrinths of the delicately and highly organized nerve structures of "the supreme hemispherical ganglia."

Maudsley, in his classic work on "Mind in its Relation to Matter," with a master's skill ably portrays such results.

We know moreover that "Byron's" beautiful allusion to the "Prisoner of Chillon, whose hair turned gray in a single night," is not without its prototypes in science.

Bucknill in his elaborate treatise on "Mental Impressions," as well as I can recall, gives some thirteen well authenticated similar instances.

But no concomitant or superadded facts pointed to such results in Willie Maier's case. His splendid physical condition, perfect and rapid restoration after his convulsive hybrid manifestations, combined with an entire absence of neuropathic heredity, would make such a conjecture an absurdity.

In conclusion, that remarkable, extraordinary, quasi mysterious disease almost, if not, a "morbus sacar," we call hysteria, which has so long baffled antiquated and modern science to describe and explain, throws no clearer rays of light upon this boy's singular efforts at the simulation of disease.

Hypochondrical men and hysterical women will perhaps always muddle the tentative efforts of medical science to unravel the mysteries of their respective pathologies.

Willie Maier's case cannot be relegated to *their* domain, but must ever constitute a "cause celebre," or an attempt at a feigned hybrid never to be admitted to any recognized nosological position.

In conclusion, I will state that in consequence of the able defense of the dog catchers (by Attorneys Marshall McDonald & Bass, aided by the efforts of such medical experts as Prof. Frank Fry, the venerable and distinguished Dr. Chas. Stevens, the talented and experienced Dr. A. B. Shaw, and last, but not least, the excellent services rendered in the case by Mr. J. H. Simons, a student of the Missouri Medical College, conjoined with

my own feeble efforts), the defendants were liberated, notwithstanding the maudlin sentimentality and sympathy of a morbid character of public opinion which prejudiced their case. In the annals of medical jurisprudence the case will constitute a remarkable one, and I present it to this learned Association on the merits of the naked facts observed, portraying *saliently*, as it does, an attempt at the most consummate fraud and malingering, according to my observation that occurs in Medico-Legal literature.

(Despatch, June 6th, 1889, over two weeks after the trial, received and read at the Congress.)

St. Louis, Mo., June 6th, 1889.

Careful inquiry among neighbors and associates of the boy, Willie Maier, failed to disclose any manifestation of "fit" since trial. He mingles daily with former playmates, apparently well as ever.

Marshall F. McDonald.
Senior Counsel for Dog-Catchers.

THE SENSE OF SMELL IN RELATION TO MEDICO-LEGAL QUESTIONS.

By J. Mount Bleyer, M.D., New York City.

Before entering upon the reading of my paper, I wish to state that I have omitted to go into the detail of the physiological and anatomical consideration of the nose, but shall only touch upon such points in order to make the subject matter clear and comprehensible to those who are not familiar in that part of the science.

The nose, in addition to being the seat of the special sense of smell, forms the uppermost part of the respiratory tract and is intimately concerned in the production of the voice and in the sense of taste. The external nose also modifies the expression of the face.

The special nerve of the sense of smell is the olfactory. This nerve is the one which now is of direct interest. The olfactory region, where this nerve is distributed, is that part exclusively capable of receiving odorous impression, and, consequently, the olfactory is the only nerve endowed with specific olfactive properties. Dogs in whom the olfactory nerve has been cut refuse meat wrapped up in paper, and are incapable of finding it when hidden. Persons suffering from anasmis, due to absence, atrophy or injury of the olfactory tract, or ganglia, are deprived of the sense of smell, although they are capable of detecting certain pungent substances, such as bromine, iodine, chloroform, acetic acid, etc.

There is a difference between pungent and odorous substances.

The mechanism of the perception of odorous substances is little understood. We know nothing about the nature of odorous substances, and it is impossible to classify them similarly to substances productive of gustation. If we want to describe a certain odor, we have to give the name of the substance which produces it. "Linne" divides odors into several classes, viz., aromatic, fragrant, ambrosial, luscious, foetid, repulsive and nauseous.

The act of smelling takes place by the contact of air, laden with odorous particles, with the olfactory portion of the nasal chambers. The diffusion of air is facilitated by the projecting inferior turbinated bone. By it the ascending air current is directed against the septum nose (or the bridge of the nose); striking this, it is again deflected and scattered throughout the recesses of the anterior fossal.

Odorous particles give rise to olfaction only when suspended in gaseous media. The presence of minute particles of odorous substances in the atmospheric air is readily and quickly detected by the olfactary mucous membrane. Often this has been demonstrated to us—for example, a paper containing some substance like tobacco or snuff, and which has been impregnated with the odors of these substances, will retain traces of their characteristic odors for months, or even years, afterwards.

It is quite easy to demonstrate the amount of an odorous gas necessary to be present in the atmospheric air in order to be appreciable to the sense of smell. This is obtained by taking a given amount of atmospheric air and slowly adding to it the gas to be tested, until its pres-

ence is appreciable to the sense of smell, and then estimating the relative amount of the two gases present. One could in this way tabulate the different odorous gases, ranking them according to their relative energy upon the olfactory mucous membrane.

In such a table, sulphuretted hydrogen would hold the first place, as this gas can readily be detected when present in the proportion of two parts to two million of atmospheric air. The sense of smell is in many cases a reagent far more sensitive than those of chemistry, for man can recognize by their odors the presence of certain bodies in the air when the reagents of chemistry are powerless to detect them.

Such a statement is not surprising, if we bear in mind that many of the changes produced in the air by the presence of odorous substance, are still enveloped in obscurity, and that the presence of the perfume of flowers and other odors in the atmospheric air, cannot be demonstrated by any power known to chemistry.

The sense of smell, which, though it plays a very inconsiderable part in the ministering to the guidance of civilized human beings, is of the very greatest importance as an intellectual sense to many different kinds of lower animals, and is frequently like other sensorial endowments, very keen in some of the less civilized human races.

The acuteness of the sense of smell possessed by man when compared with that of the lower order of animals, is found to be vastly inferior. This is partly due to the neglect of the cultivation of this sense. Persons who are both blind and deaf, and who are consequently compelled to cultivate and rely on the other senses, have been known to almost equal the dog in the acuteness of smell. Among savage tribes whose senses are more cultivated

than those of civilized, more direct use being made of the power of observation, the acuteness of the sense of smell is almost equal to that of the lower animals.

Humboldt states that the Peruvian Indians are able to distinguish in the darkness of the night the different races, whether European, American, Indian or negro. This distinction of the races they do by the odor which accompanies the evaporation from their skin ; the smell ef each different race has its peculiar characteristic odor.

In medico-legal inquiries the sense of smell is often a source of the most important evidence. In such cases of poisoning by the volatile narcotics, such as alcohol, ether, chloroform or bichloride of biethylene, the odor of the breath of the patient, when he is first seen, lying in a comatose condition, has often enabled the medical witness to distinguish between the coma of narcotic poisoning and that of apoplexy. After death the odor of alcohol can be detected in the stomach, in the ventricle of the brain and in other serous cavities. When the more volatile narcotics have been taken, it is still more important to observe the smell of the breath during life, as the odor disappears after death.

The breath of patients who have taken a poisonous dose of hydrocyanic acid smells strongly of the acid, and the odor is relied upon when confirmed by several independent witnesses, as being an extremely delicate test of its presence. More important is the evidence if the odor is detected during life, both as an indication for treatment and for Medico-Legal purposes—than any testimony afforded by a post-mortem examination.

Oil of bitter almonds has an odor peculiar to itself, and resembling that of Prussic acid. The breath of persons poisoned by this oil is strongly tainted with the smell of almonds, and after death the tissues emit the

same odor. Cherry laurel water has the same smell as that of Prussic acid. Some interesting cases in regard to this acid are cited in Medico-Legal literature.

Opium and many other vegetable narcotics, as belladonna and tobacco, may be recognized by their peculiar odors. The odor of opium is alone characteristic, and may be detected in the stomach before and after death. Poisonous gases of various kinds, particularly hydrogen, coal, gas, and chlorines; and many other such examples may here be cited which could easily be detected by the sense.

In cases of suspected poisoning the question may arise whether it is possible to saturate substances such as bran, or articles of dress, or bouquets of flowers, with some subtle poison, the odor of which will act deleteriously upon the person who smells the article so infected.

This question has been carefully investigated by Orfila —who has come to the conclusion that such methods of poisoning are impossible.

The influence of many odorous substances on persons susceptible to it is well known; vomiting, syncope, convulsions, and even coma, having been apparantly caused by the impression on the olfactory sense in highly nervous persons. It is now clearly ascertained that powerful odors only effect people in delicate health, or those with a peculiar idiosyncrasy, and that only a few odors are capable of effecting each such individual, two persons being rarely effected in the same way or by the same odorous substances or emanations.

1. In concluding this paper, I wish to show that the sense of smell is of vital importance in relation to medico-legal questions.

2. That all witnesses interested in certain poisoning cases should be examined by an expert Rhinologist in

order to ascertain by his diagnosis whether such a witness possesses that sense, or whether that sense is present or deficient, and to what degree. If absent entirely such a person suffers from a disease called anosmia, or if partial or one sided loss of smell exist, it is called hemianosmia. These persons who suffer from this condition are unable to use this sense, and if half present, only can make use of one of the nostrils. Therefore I would consider their testimony is to be valueless.

In comparison there is no doubt that this sense of smell is as valuable to such witnesses or experts, as would be the loss of that sense to distinguish the different colors, or color blindness to railroad men and others.

If such witnesses or experts are allowed to give their testimony without a previous examination of this sense, in order to be able to know how acute or to what extent this sense is effected, there would be no telling what error might be made, in numerous instances, which could be cited here.

These are some of the causes which are productive of the disease called anosmia. I may summarise thereon as follows:

Usual obstruction from tumors, polypi, axostosis, by perthrophy of the mucous membrane, facial paralysis, abnormalities of the olfactory epithelium and nerve fibers (loss of pigment) rupture of the olfactory nerves, congenital absence of the olfactory centre for smell on the same or on the opposite side (tuberculous syphilitic, etc.), hysteria, various poisons, over stimulation and over exercise of the sense.

In the diagnosis the activity of the sense must be tested by means of irritating perfumes sufficiently familiar to the patient or witness for ready identification.

At the same time the presence or absence of the appreciation of different flavours (apart from pure taste proper) must be considered. As a general rule, loss of smell without impairment of taste for flowers, (as distinguished from taste proper) indicates local nasal obstruction.

Local nasal causes (especially polipy) must be eliminated before the rarer forms of nervous anosmia are diagnosed. The olfactometer which is an instrument for the testing this sense can also be made use of. The continous current is another test.

The traumatic, toxic and neurotic causes must be kept in mind. Lastly, the central causes can only be diagnosed by means of a neurological analysis of the accompanying cerebral symptoms.

My intentions were to show how important a part this sense may be made to play in certain medico-legal questions and in all cases of poisoning in actions brought against what are termed nuisance, etc.

ECCENTRICITIES OF INSANITY.

By Noah Davis.

In the year 1856 a notable murder was committed in the County of Niagara. It was made notable by the fact that it was committed on the Suspension Bridge, which spans the Niagara River between the State of New York and Canada, and at or near the central line, which is the boundary of the two countries. One Edward Glennon was driving in his wagon across the bridge from Canada, when he was met at a point just over the boundary line, by one James Flynn, who there shot him with a pistol, inflicting a mortal wound. Glennon was taken back to his home on the Canadian side, where he died from the effects of the wound. Flynn returned to the American side and was there arrested, and after the death of Glennon, indicted for murder.

These persons had been partners in business on the Canadian side, and had separated, and quarrelled over the settlement of their affairs. Flynn came to the American side and bought and loaded a pistol and started to return to Canada, when the meeting with Glennon on the bridge unexpectedly occurred; and in the controversy which followed Glennon was fatally shot.

Flynn was tried at the Niagara Oyer and Terminer in November, 1856, and convicted of murder. The jury found that Glennon had crossed the boundary line, and was in the County of Niagara when the wound was inflicted; that he was taken back to Canada where he died of the wound; and that the shooting was done with felonious intent to kill. These facts raised an interest-

ing question of jurisdiction, and for the purpose of having it considered at General Term the Court suspended sentence, and, under the practice then existing, allowed a writ of certiorari.

The case was heard at the General Term where the conviction was affirmed, and the Court below was directed to proceed and pronounce sentence upon the prisoner.

My connection with the case began at this stage. The Oyer and Terminer of Niagara County was held by me in the fall of 1857 or winter of 1858. Soon after the opening of the Court the Sheriff came to me saying that Flynn, who was in jail awaiting his sentence for murder, was either insane or was feigning insanity, and had been in that condition for some two or three weeks. He gave me a statement of his conduct quite in detail, and of the efforts that had been made to determine whether his apparent insanity was feigned or real; that he and the jail physician and others, whom he had called in, were unable to form any satisfactory opinion; and that the prisoner could not be brought into Court to be sentenced unless bound and gagged, without a painful scene, and he asked the direction of the Court as to what should be done.

I told him not to attempt to bring the prisoner into Court at that time, and that I would take steps to have an examination by competent physicians before anything further was done. I immediately wrote personal notes to two of the most prominent physicians of Lockport, asking each of them to visit the jail and examine Flynn in every mode thought best to ascertain whether his insanity was feigned or real; and I instructed the Sheriff to furnish all the facilities in his power to each of the doctors separately, and without letting either

know that the other was making an examination. Both of the doctors accepted my invitation and each separately made a careful examination, for which the Sheriff furnished every facility. They took, as they informed me, every step in their power to make the investigation complete, both in the prisoner's presence, and when he was not aware that he was observed.

After a few days each of them made a report to me in writing; one of them expressing a decided opinion that the prisoner was insane; the other not willing to give a decided opinion, but stating a strong conviction that the prisoner was feigning insanity and was not in fact insane. The latter was a physician of great experience, whom I had long known and in whom I had much confidence. These reports put me in such a dilemma that I sent for him and requested him to make a further examination to see whether he could reach a more definite result—one more satisfactory to himself. He kindly consented to do so, and was again afforded by the Sheriff every opportunity he desired.

In about a week longer he made his report personally to me; the substance of which was that he still remained in doubt; that there were many things in the conduct of the prisoner that strongly tended to show that he was feigning insanity, while there were some other things that seemed impossible to be feigned—that the upshot of his careful examination was a still stronger doubt as to the prisoner's real condition.

The result was of course, that I could not feel justified in proceeding to pronounce sentence. I therefore made an order under the provisions of the Statute then existing, directing the County Judge of Niagara County to summon a jury to try the question of the prisoner's

insanity, and report the verdict to the Court; and if the prisoner was found insane to take steps for his disposition as provided by the Statute; and I adjourned the Oyer and Terminer for a few weeks to await the result.

The County Judge proceeded to summon a jury and try the question. The result of the trial was a verdict that the prisoner was insane; and upon that verdict he was ordered to be taken to the Insane Asylum at Utica, to be kept while his insanity should continue, and then returned to the jail of Niagara for sentence. I was advised of the verdict, and the adjourned Oyer and Terminer was not held. Flynn was taken to the Asylum at Utica, then under the charge of the late Dr. Gray, well known as an eminent alienist.

It happened to me to hold the Oyer and Terminer of Niagara County in November, 1858. As soon as the Court was organized the Sheriff came to me saying that the prisoner Flynn had just been returned from the Utica Asylum with a certificate of Dr. Gray, that he was not insane, and was in condition to receive his sentence. He handed me also a personal note from Dr. Gray, in which he said that Flynn was not only not insane at that time, but had not been insane, and his previous condition was wholly feigned. The Sheriff also stated that Flynn's health appeared to be good; that there were no manifestations of anything different from entire sanity at that time, but he feared that he might if his sentence was delayed again give trouble by feigning insanity.

I directed the prisoner to be immediately brought into Court. He was at once brought in and arraigned for sentence. In answer to the inquiry why sentence of death should not be pronounced, he proceeded to give a detailed narrative of the transactions between him and

Glennon; of their partnership in business; of their quarrel and the dissolution of the firm, and of Glennon's conduct, as he claimed, in defrauding him of his share of the firm property; that on the morning of the day of the shooting he came over the river and bought the pistol and got the person who sold it to load it for him, not with the intention of killing Glennon, but to frighten him into doing him justice; that he was returning over the bridge with no expectation of meeting Glennon, but as he reached the middle of the bridge Glennon, "as ill luck would have it," suddenly appeared driving in a wagon across the bridge; that as soon as he saw it was Glennon he sprang and seized the horse by the head, and pointing the pistol between the horse's ears at Glennon he demanded a settlement. At that (he said) Glennon sprang out of his wagon and rushed at him and knocked him down with the butt end of his whip and jumping on him, seized him by the throat, and in the struggle the pistol went off and shot Glennon without any intention to shoot on his part, and, said he, "*there was no one there, Your Honor, but myself and Glennon and that horse; and would to God, Your Honor, that that horse was here to-day to testify to the facts.*"

When he had concluded his statement, (which might be thought somewhat incoherent in its conclusion if he were not an Irishman) the sentence was pronounced, and the prisoner remanded.

I immediately allowed a writ of error with a stay of proceedings to enable the case to be taken to the Court of Appeals upon the question of law. The proper steps were at once taken to present the case to the Court of last resort, the prisoner, of course, remaining in jail. The next Oyer and Terminer in Niagara County, which

was early in the following winter, I think, was also held by me, and I had no sooner taken my seat on the bench than the Sheriff again came to me for an order in Flynn's case. This time the order was one permitting the Sheriff to deliver the dead body of the prisoner to his relatives for burial. He had died the night before, a mere skeleton from starvation, and had been for some weeks a raving maniac, whose insanity no one could doubt; refusing food, clothing, and in every other way showing himself to be utterly demented. The order was made and the remains were taken away by friends for burial.

I have given this narrative of Flynn's case, not that I think it sheds any special light on the subject of insanity, but because it tends to show the uncertainity of opinions touching that disease, even when given by learned and honest doctors; and also, perhaps, that among the Eccentricities of Insanity may be the fact, that that terrible disease will sometimes avenge itself upon persons who for any reason successfully feign its existence. Whether Flynn's case may or not be one of that kind I leave to Alienists. After his conviction was affirmed by the General Term, and his sentence was ordered to be pronounced, and as the time for sentence drew near, knowing that it could not be pronounced upon a lunatic he, perhaps, set himself to work to feign insanity, and succeeded in his purpose for many months. He probably was advised that until his sentence was pronounced the grave question in his case could not be adjudicated by the Court of last resort, and therefore, he abandoned his pretended insanity to receive the sentence. Over this sentence he brooded in his cell till the horror of death by hanging filled his mind with recollections of what he had said and done, and his success

while feigning insanity, till those remembrances coiling like serpents around his brain became realities that led him to the fearful mania of which he died. Whether this may be so or not I leave to scientists. But the moral of my story is this: It is never safe successfully to feign insanity since the act of such feigning may open a door through which the appalling fate of real insanity may triumphantly enter.

EXPERT TESTIMONY IN HOMICIDE CASES.

By Judge William H. Francis, of Bismarck, Dakota.

Nothing, mundane, so closely and universally deals with human action as the Law, the recognized rule of action.

Written and unwritten, it reaches the various courses of man's numberless activities, having to do, however, with intent and conduct, and the state and effect, rather than with the origin, elements and substance, of mental and material forces.

In its practical and decisive operation it acts upon conditions, admitted or proved, which it has neither the power to create, the ability to destroy, nor the right to discard.

It takes its fulcra from all other systems of Science, and its application may be modified or settled by something in physics or metaphysics, in philosophy or in art.

The law is a ruler, a judge, an avenger; the utilizer of proof and not its begetter. It regulates the production of testimony, regards the nature and extent of evidence, determines what shall be the consequence of that which is shown to exist in fact or in reason, and the effect of showing the non-existence of something claimed as existing. It defines crime and commands what shall and shall not be done, but all known legal principles cannot locate a wound, discern its effect, or identify the perpetrator.

The punitive vitality of the law againt crime is

inoperative, its penalty dormant, without demonstration of its infraction.

This demonstration must be manifested to the law, itself, which only perceives it through the medium of testimony, the cause of the evidence that, in turn, yields the demonstration or proof.

Testimony, then, affirmative and negative, (in its comprehensive sense, the witness of sound reason, confession, writings, oral statements, documents, animate and inanimate objects) is the most potent factor in all cases.

Truth is the pure gold of testimony, and untruth the alloy that lessens or destroys its worth. The gold is the guileless refinement of the soul, the undissembled aspect of matter; the alloy is the craft of art, the product of evil. Man's justice is not the famed ideal, immortalized in blind-fold Themis calmly holding her impartial balance at equipoise, and in *its* defective scales, many times, alloy is weighed for pure gold.

Questions of vital import arise which the law is utterly unable to solve without the co-operation of another method of science that shall find out and elucidate the cause and nature of things, since their solution is not to be derived from any legal tenets, nor from the criterion of abstract, or prescribed, morality or right, but from some knowledge of material forces and the laws governing them, an inspection of substances and their real or seeming condition and the study of their source, essence, material and use; or, as in cases of insanity or mental disturbance, from a sentient consideration of the relation between mind and matter and, in certain states, the effect of the one upon the other, the manifestations of such effect and, if attainable, its direct or approximate cause.

The trial of one charged with murder arouses the greatest interest. And the right conclusion that a homicide is, or is not, one of the degrees of murder, or of manslaughter, or is, or is not, legally justifiable or excusable, in very many instances, depends, in whole or in part, upon evidence derived from some branch of Science, outside of the law, communicated through what is termed "expert testimony."

The nature and result of the wound or hurt; the position and surroundings of the parties and their bodily and mental state when it was inflicted; the exact or probable time of death after the injury; what might have caused the mortal harm, and what could not have produced it; the actual or remote cause of death; the fair inference from posture and appearance; the significance of scars and stains; the essential qualities and effect of drugs and potions; the mechanism, power and function of the physical organs; the phases of mental life and expression; the abnormal in mind and matter; these, and other things equally pertinent, require investigation and the law must have an auxiliary.

Hence we have the science of Medical Jurisprudence wherein law and medicine join as co-searchers, and natural and human laws hold instructive discourse. This is the arena of some of the most sublime achievements of intellectual and professional skill, acute perception, delicate poising and wielding of still more delicate elements. In it we become more familiar with the diverse grades of personal responsibility, the relation between cause and effect, and get information that enables us to be more just.

The criminal world has its law or force of gravity, and the depraved and vicious are drawn towards crime the centre of attraction. The material and physical incite,

tinge and fashion purpose and deed, and the highest crime may proceed from the lowest motive. A hungry stomach, a fiery circulation, a trinket, a purse, has made the hand do murder.

The true secret of lasting reform lies not in the number and rigor of penal laws, but in their intelligent and discriminating enactment and enforcement, in the light of growing comprehension of the constitution and tendencies of the race, and the multiplication and enlightened use of counteracting attractive forces. These forces must find the level of every-day human nature and permeate the substance of real life.

In Medical Jurisprudence, the fountain of most of the expert testimony effective in criminal cases, there is much that may be useful in advancing this reform.

Belief, at least in matters secular, springs more from testimony than from faith. Actual sight or touch is more convincing to the common mind than the deduction of logic, though the latter is frequently the more correct informer. Sight and touch may be deceived, logic may blunder. Absolute certainty, the creature of unvarying law, is not an attribute of human testimony, yet mutual dependence is a fixed rule and the interchange of testimony a necessity in our transitory life, and hearsay testimony is the main prop of the credence of the world of men.

Each extends the horizon of his fellow. The illiterate, experienced in certain lines, instruct the most cultured, and one master, in science or art, furnishes evidence for millions.

But, in and out of court, human testimony, largely influenced by fear, favor, prejudice, affection, interest and compensation, is for the most part, imperfect, much of it erroneous, and some of it intentionally false.

In the material, moral and spiritual, our ideas of size and quality are extensively based upon observation and comparison, and grade or degree is significant. One rates low what another elevates, or his lens magnifies what that of the other diminishes.

The importance of testimony is measured by its effect, or the magnitude of what it establishes or casts down. The higher its grade, the more serious its applicability, the more baneful becomes any defect or falseness in it, and an expert witness in homicide (and in all) cases should be more than the peer of all others in rectitude and candor.

Expert testimony is above ordinary witness as trained scrutiny surpasses untaught casual sight, and skilled test mere notion.

To give to such testimony its fitting place and office, in a case, requires something more than readiness in applying the usual rules of evidence. Judges, presiding in homicide cases, very learned in the law, often inexpertly pass upon expert testimony and are unable to distinguish between true science and its adulteration, to the disadvantage of the commonwealth or the accused.

And it is worse with the jury to whom the testimony goes for final disposition. Few, in the ordinary walks of life, understand the plainest scientific principles, nevertheless jurymen, selected in a chance way, mostly from the body of the middle rank, are expected to comprehend and apply expert reasoning and testimony taxing the learning and experience of specialists, and there is too much reliance upon the entity and capacity of that vaunted "common sense" fondly, but mistakenly, ascribed by many to mankind in general and not always accompanying those serving as jurors.

With a life at stake, pivotal matters, profound and

abstruse, are submitted to minds promiscuously thrown together and untutored for the purpose, and not to a jury of experts. This may well be corrected.

The plan of inquisition and trial by jury, carefully preserved from innovation, like some ancient land-mark, has not taken the form and spirit of the general progress that is the outcome and glory of the years.

The ascertainment and elucidation of sciential principles, reliable analysis and synthesis with brain, instrument and crucible, convincing intellectual and manual operations and tests, and the correct appliance of legal principles to what is thus made known, commonly demand superior attainments and skill, and an error may be sin.

That errors occur does not argue the imperfection of Science, the failure or inadequacy of natural laws, the impotency of legal rules, but reveals the work of a sciolist and not a true artist. Doubt is near error, and in the bewilderment of the one we may readily fall into the other.

The doubt in experiment, and all scientific research, should be frankly avowed, regardless of sensitive pride, in order that it may become an ingredient in the mass of testimony that, sifted, winnowed, weighed and estimated, shall determine the absence or presence of that much talked of, and frequently wrongly conceived, "reasonable doubt," of guilt, which cannot be successfully defined or prescribed by one mind for another but must be revealed to each juror in and by the processes of his own inner consciousness.

No scene in a court of justice is more engaging than when, in a capital case, a competent and consistent disciple of Science, with plain words, using only the necessary technical terms, unfolds an underlying and

controlling principle, expounds some law or power in the economy of Nature, relates a marvellous feat in surgery or signal success in experiment, and lifts "the point in the case" out of the obscurity and shifting sands of doubt and sets it on a secure pedestal in transparent conspicuousness as *an established fact.*

On the other hand, in the "badgering" of witnesses, not legitimate cross-examination, the confusion of the expert, or what he says in irritation or anger, passes with many, for lack of knowledge and confession of uncertainty or mistake, and the most capable experts, champions of wisdom, vulnerable through temperament or some peculiar infirmity, are dazed, or knocked out of the case with a blow "below the belt."

There was more than a mental reservation when natural liberty gave way, in part, to the restraints and protection of society and government, and crimes, hydra-headed and multitudinous, constantly denote the survival of the pernicious sentiment that the individual is a sovereign and not a subject, and that his desires are the only limit to his sovereignty.

Even the law, being man's work, so far concedes this sovereignty as to promptly equip all accused of crime with mail and weapons, which the State must break before it can convict; and the tendency is to increase these defences, some of which assist crime and defeat justice.

The accused, if convicted, may have new trial or trials; but, once tried and acquitted, neither his life nor person can again be put in jeopardy for the offence, though the evidence of his guilt be undeniable or his own tongue glibly confess it.

In recent times some courts have still further stretched the doctrine of jeopardy, and we are fast approaching,

if, indeed, we have not already reached that state, in the rules and practice of jurisprudence, when the greater the crime the more numerous the avenues of legal escape, and the more difficult and uncertain the prosecution. The more law, the more crime.

How important, therefore, that all criminal trials, certainly when murder is alleged, should be as complete as possible, and that the testimony, on which guilt or innocence is to be predicated, should be clean and the best obtainable. The ripest experience should be placed in the witness-box as an expert, and the purest light of Science be freely turned upon the case. This is sometimes precluded by the impolitic parsimony of public officials and the jealousy creeping into the most lofty pursuits.

While the followers of Science, in its various departments, in beneficial emulation and controversy, are enlightening the world and extending the roll of enduring fame, scientific work, not impervious to some evils, does not always measure up to that standard of integrity and value which, from its very nature and purpose, it should attain. This is evident in expert testimony in judicial contests, and is marked in murder trials.

Man is inclined to credit that which seems to further his own ends or endorse his present hope or wish, and his conclusions are (unwittingly) influenced by causes intimately connected with his own interests and the welfare of those for whom he acts. The expert is not exempt from this tendency of our nature.

A sinuous evil arises from the zeal of the expert to make return for his fee, and discover or produce something that shall profit his side of the case.

Zeal, (Dryden's "blind conductor of the will"), blurs the eye that has been wont to see certain things clearly,

transforms the object, slights the rule, contracts or enlarges the deduction, alters, just a little, the color or texture at a critical moment, and the expert halts before he has reached the true mark, or leans over the limit, and accredits to Science less or more than its own; or, accepting apparently plausible but misleading indications, he remains ignorant of the certainty lying deeper. If this is not the general rule it cannot be said to be uncommon.

The zeal we have noted may generate design that shall dilute sincerity and taint performance. Error in the ruling of the Court can be excepted to and rectified. The error of an expert witness is not so easily found nor so surely reformed. That upon which the Court rules is of record, with the ruling, and open to full inspection. The opinion of the expert may be given from secret trial. He may be unfaithful to the conditions he finds, turn alchemist and give to base substance the show of the precious metal, be careless, vacillating or dishonest when he should be the most cautious, constant and upright, and the subtle forces he invokes or handles may not, perhaps cannot, testify against him, or, by reason of inability or the complications of the situation, the cross-examiner misses the clue that would give them voice.

In most homicide cases the result hinges upon experiment, the views of doctors founded upon fact or hypothesis, the disclosures of an autopsy, or other expert testimony, by which both guilt and innocence have been detected, the innocent pronounced guilty and the guilty innocent. It is not unusual for such testimony to be engendered by investigation, practical or theoretical, pursued without the essential knowledge or skill. This is deplorable when we reflect how often the best, even the sole proof lies hidden in the body of the deceased.

Undiscovered it is dumb and its relation to the homicide, perchance, unsuspected. When the educated hand of the surgeon uncovers it, or the chemist by some immutable authority brings it forth, it dominates the case.

The research and work of the expert, from which his testimony derives its intrinsic weight, should be exhaustive in scope and in detail. This forcefully applies to *post mortem* examinations as the ground-work of expert testimony in homicide cases.

In June, 1885, A and B, husband and wife, were tried before me, in my Judicial District, (the Sixth of Dakota) for murder in killing C. The body of C, in pants and shirt and wrapped in two blankets, was found August 2, 1884, face down, in the water of a prairie slough. The eyes hung from their sockets, there appeared to be a mark or bruise across the forehead, and also one extending from the right side of the chin backward to the base of the brain. A coroner's jury (without an autopsy) declared that C "came to his death by felonious means, by being struck a blow upon the back of his neck and across his forehead by some heavy club or substance," etc., and the remains were buried. Soon the body was exhumed and two physicians, making a partial examination to the extent of exposing the neck muscles, concluded that death had resulted from strangulation, and the corpse was once more interred.

One of the five counts, in the indictment for murder against A and B, charged strangulation, and, at the trial, the Territory, relying entirely upon that count, contended and presented testimony to show that A and B had murdered C by strangling him; and when the prosecution rested, it had made out a strong *prima facie* case.

Counsel, in opening the defence, admitted that A had

killed C, asserting that he had shot him in the head with a revolver in self-defence, and called the defendants in support of his assertion. Both defendants swore that, at night, while they with C were lying in a tent, C assaulted A with a knife and A, still recumbent, pushed C with his foot (C being on his knees) and simultaneously shot and killed him with a revolver which he (A) had drawn from under his pillow; that they carried the body, wrapped at it was found, to a secluded place off the trail, and threw it into the slough.

While the trial proceeded the body of C was again exhumed, the head removed and dissected, and in the brain was the small bullet which had entered through the opening of the ear, leaving no perceptible external trace.

The strangulation theory was thus demolished and the true means of death divulged.

This episode somewhat demoralized the prosecution and had its effect upon the jury, and A and B, who, had the first *post mortem* been a searching one, might have been convicted of murder, were found guilty of manslaughter in the first degree.

Then there is the sale of opinion to fit the case, the manufacture of testimony to order, the commerce in scientific perjury, by which, under the oft mis-applied doctrine of "the weight of evidence" (by courts and juries) verdicts are effected, wrong in principle and justice, while seemingly founded upon proof. At the very tribunal of justice, under cover of formal legal procedure, by so-called experts and by other means, truth has been prostituted and silenced. It is neither the duty nor the province of a lawyer to encourage or assist such a deed, but rather, whenever he may, to prevent it. Court, counsel and expert, concerning plaintiff and de-

fendant, should never be the enemy of truth. Counsel and expert may parry its thrust, temper its effect, diminish its application, argue guilt or innocence from it, bring to the forum other truth that shall be victor in the case, confront it with the fair doubt which, by skilful construction becomes the tower of safety for the client, but should never, as principal or as accomplice, defame or assault it in hot blood or with malice aforethought.

It should be the endeavor of all professions to exterminate imposture and wrong, uphold and illustrate virtue and justice, and help in the purification and even-handed execution of the rules of conduct that, rightly instituted, obeyed and enforced, make and preserve wholesome society.

It is just and most pleasing to observe that criminal carelessness and corrupt design rarely mar the shining and voluminous record of the great army of scientists, which is not responsible for its camp-followers.

Defences dependent upon experts for their efficacy are liable to questionable development and to misuse.

The defence of "emotional insanity" is a favorite one when other defence is not available. Under it guilt has been adroitly metamorphosed into irresponsibility, malice has escaped, enveloped in the cloak of deranging excitement, and revenge has been given the mask of momentary delirium with which to hide its more hideous and mature features. No defence is more prone to be fallacious and none should be more minutely scrutinized or accepted with more caution and reluctance.

The field of inquiry into mental and moral unsoundness,———insanity in all its degress and phases, such as "irresistible impulse," "moral insanity," "insane delusions," "emotional insanity," "monomania," and the insanity of "*delirium tremens*"———is full of uncer-

tainty and fertile in imperfect and hazardous speculation and inference. What intelligence can accurately declare that the mind essaying to judge another intellect is, itself, in all points, sane?

The problem of accountability for homicide, embracing the mental and moral capacity of the slayer, perplexes while it interests. In the trial of such a case, the judge, attorneys, experts and jurymen may all agree that one may be in such a condition, mentally or morally, as to be legally unaccountable for a homicide which committed, by another, of sane mind, or less or dissimilarly affected would have all the requisites of murder; at the same time, in striving to determine where legal accountability ends and incapacity for murder (as defined by law) begins, they may (and, doubtless, usually do) severally reason on a different plane; all seek the one point, but they may finally locate it diversely; and if there be a verdict, it is more one of feeling than discernment, evolved from embarrassment rather than from definite reason.

Circumstantial evidence, which appeared conclusive, has sent to death its blameless victims, and the death penalty should seldom, if ever, follow a conviction resting upon it chiefly or entirely.

Whether the evidence be in part what is called (for distinction) positive, and in part only implicative, or wholly circumstantial, to be efficient it must have continuity. The testimony may be in separate pieces gathered from different sources, but the evidence constructed therefrom must be an unbroken line of united links. Expert testimony may prevent or break the sequence; it may supply the needed link, or weld into strength a fragile or defective one, thus completing the chain that connects the prisoner with

the crime and the crime with the prisoner. What the expert asserts may be true, but the link it supplies or perfects, fitting into the chain in dimension and form, may unite and make serviceable other links that are spurious. To such uses may truth be put.

The value of expert testimony is lessened when the investigation preceding it is made by proxy. The expounder should be the delver. Some years ago, in a test action to recover for the contamination of well-water by percolations from gas-works, I called to my aid a renowned chemist and present member of our "Medico-Legal Society." His work, like that of every great doer, was conscientious and complete. He personally drew water from the well, analyzed and distilled it, and in court, with chart, experiment and oral demonstration, explained the manufacture of illuminating gas and described its ingredients with their effect upon water. A bright professor, from a well known college in one of the Middle States, attempted to refute, or explain away, the statements and conclusions of plaintiff's chemist. The latter had been loyal to his revelator and, at the close of a protracted cross examination (really carried on by the chemist through the attorney, the best way) the attack had not only failed at every point but the two professors stood, side by side, as twin oracles of the same faith drawn to the same spot by the irresistible magnet of scientific truth.

My subject presents other lines of thought which cannot be included within the appropriate limits of this paper.

Thought, theory and test are but means by which we seek Truth. Uncertainty is not in Science, but in the thought, the theory and the test. These are often taken for scientific truth, so that the means stand for the

unattained end. The imperfections attributed to Science are in our own methods and our failure to detect the perfection that, though unknown to us, may not be unknowable. We advance The realization of imperfection intimates the excellence of perfection, and, instinctively and from love of learning, we strive for the possible comparative completeness towards which also advantage impels or necessity mercifully goads us.

In the proper preparation and employment of expert testimony we continually discover that Science is "myriad minded" and no guesser. It speaks with veracity and decides with the judgment of perfect law. Its ways run in the universe of mind and matter, through the turns and depths and up the altitudes of life and action. As they reach into her vast domain, her spacious laboratories, following her many suggestive guide-posts, spanning her landscapes, penetrating the mysteries of her throbbing and her pulseless wonders, the caverns of her seas, the bowels of her mountains, the intricacies of her inwardness, Nature environs these ways with helpful revelations and alleviating forces, throws upon them her sunlight and, when they lead aloft, illumines them with her constellations; at times, in difficult places, they have Inspiration's added and diviner ray.

To the mere superficial stroller in these ways of Science, Nature imparts little and may appear fickle or false. She is ever steadfastly true. Yet, in order to know her as she is and enjoy the benign unfolding of her chemistric secrets, we must persistently attend and woo her, open our ears and mind to her instructive language, our eyes to her object-teaching, apprehend her doctrines, acknowledge her infallibility, and take her as our guide, counsellor and court of last resort in all the jurisdiction of her laws which are the decrees of her Creator.

LICENSE LAWS.

By Dr. Karl H Horsch, Dover, N. H.

It is a great pleasure to behold what the President and his co-workers have done for the formation, maintenance, and propagation of this noble Association.

Let us hope that the time will come soon when the Medico-Legal Society, The American Public Health Association, a better supported National Board of Health, The American Medical Association, State and Local Boards of Health, The various Associations of Lawyers, Architects, Artists, and Plumbers, State, County and Local Medical Societies, will more harmoniously and effectually co-operate for the welfare of the people.

When such harmonious strife exists, the people will have forums where every person can receive rightful opinions, advice and decisions from a "consensus of the competent," and science, religion, political and social conditions will be brought into a philosophical harmony.

Thanking you, Mr. President, and members of this Society, for conferring the honor upon me by electing me one of your Vice-Presidents, permit me to give you a brief opinion and some experiences regarding license laws.

This important branch of excise duties, rationally adapted to the conditions of civilized nations, benefits the government and the people.

The manufacture and sale of poisons and alcohol are just as necessary and beneficial as other supplies for animal and vegetable life, but a rational and safe application and adaptation of those articles can be efficiently

controlled by competent persons and well conducted license laws.

1. The States in which such laws exist receive thereby a great part of a rightful and needed revenue.

2. The manufacturing and selling of alcoholic beverages are placed in the hands of responsible citizens, and this business can be conducted as legally and lawfully as any other.

3. Competent inspection and examination of those articles will be safeguards against adulteration.

4 It will be for the interest of the licentiates to be vigilant, and try to prevent illegal sale of liquor.

5. Dealers in such beverages have the best opportunity to guard against drunkenness, and can be made directly responsible and forbidden to sell to minors and known drunkards.

6. A well construed license law will give security to the employment of thousands of legitimate laborers, to honest business men, and to millions of well invested property.

Honesty, modesty, integrity, and common sense, demand such protection and security from the government of any State, especially in a free and independent nation. There are among the manufacturers and dealers of alcoholic beverages as many intelligent, honest, and noble persons, as in any other business. If they receive the rightful protection from the State, and due appreciation from the people, appropriate social conditions will be improved by their efforts, and many gloomy notions overcome.

In tastily arranged, well-managed restaurants, coffee-houses and concert gardens, where good meals, coffee, tea, wine, and beer are enjoyed, people can take their needed recreation and comfort.

If such public places are conducted by intelligent responsible persons, ladies and ministers of the Gospel can visit them, enjoy what their appetites crave, and also extend the noble mission for temperance.

In Germany I have seen pastors taking beer in a hotel, after preaching their sermons on Sunday, and nobody found fault with them.

I have also heard of a case where an American Judge condemned a liquor dealer to imprisonment for a third offence of selling liquor, and coming from the Court-house went into a saloon, bought and drank his whiskey.

Rational and rightful laws are good aids to keep the people in due bounds ; but unwise inexpedient laws, like the Sunday, and Maine Liquor Laws, pervert even the minds of ministers and Judges. Cases are known where officials, and so-called temperance speakers, have violated secretly what they advocated violently, publicly.

Prohibition may do well as "a writ in England, proceeding out of a superior court of law, to prohibit and prevent an inferior court from proceeding to hear or dispose of a suit or matter over which it has no jurisdiction," but as a law prohibiting manufacturing and selling alcohol and alcoholic beverages, it is inexpedient and unjust.

1. It is an infringement upon personal rights.

2. An established traffic and legitimate business, and labor would be suppressed.

3. Millions of intelligent and temperate persons would be deprived of pleasures and beneficial enjoyments.

4. The State would have the financial loss of an important and necessary revenue.

5. Zealous advocates of prohibition charge legal and legitimate business men who have licenses from the United States government with criminality, and in their

mistaken zeal perhaps unconsciously insult better temperance men than they are, by their notions and strictures regarding intemperance. Some of their peculiar statements create pity or laughter before the forum of reason. One of those zealots made the assertion that Jesus did not use wine at the "holy supper," but grape juice; another one gives his opinion in the *Boston Evening Transcript* of March 21, 1889, as follows:

"I am very decidedly in favor of the constitutional amendment prohibiting manufacture and sale of intoxicating liquors. And I believe in enforcing it, if necessary, at the point of the bayonet We have had hell at the helm long enough."

6. Such prohibition is likely to cause illegal manufacturing, home distilleries, cellar, kitchen, garret, barrooms, and liquor smuggling from other States. Under the management of the traffic by irresponsible, unscrupulous individuals, drunkenness is more likely to increase, and rational efforts for the right use of such beverages and prevention of abuse are frustrated to a great extent.

Mental sobriety considers inebrism as a disease, it is inherited, and the afflicted ought to be treated like other patients, by kindness, experience, and skill. The best places for the cure of such persons are well arranged and managed institutions; imprisonment and other punishments of such individuals are unjust and cruel.

Temperance in all things will be promoted by education, persuasion, and appopriate social conditions.

Food and drinks are given by our Creator for our subsistence, and the reason to use them is also a gift of God, and has to be developed and cultivated by individuals, States and nations. The right use of food and beverages are very important studies for every person during life. If it is necessary to abstain from one or the other kind,

rational persons will do it or follow the advice of better educated minds. Total abstinence from any kind of supply for our subsistence and pleasures for the sake of pleasing religious, political, or social notions and fanaticism is an unreasonable, slavish submission, and a deprivation which will cause exhaustion.

Abuses and excesses which are harmful and interfering with public welfare come under the jurisdiction of authority and the law of the land.

If I had advocated licentiousness, I could not have expected a severer criticism than two of the members in their zealousness for their own opinion manifested.

The rant of one created smiles ; but it is pitiful when religious, national, and individual vanity is paraded.

I thank one of those opponents for the acknowledgement to my countrymen, "the cool-headed easy-going Germans," and I wish that he and the member from New Jersey may acquire these conditions, and manifest them in a discussion.

Let me assure them that I am full as desirous to do my part toward temperance as they are.

If they consider what the Maine Liquor Law has done in over 30 years of its existence, they would certainly wish to have a better law.

Let them also take in consideration the great majorities who voted against prohibition in Massachusetts, New Hampshire, and other States, and what the Governor of New York says in his veto against the so-called temperance bill.

I thank Mrs. Louisa M. Thomas, ex-president of Sorosis, that she so kindly reminded one of the speakers who stated, "that we were not in Germany," that "we were in the third German city in the world." Her view of this subject was excellent.

In a life of over 67 years, 31 years and 5 months in Europe and 36 years and 5 months in America, my experience has brought me to the conclusions which this paper contains.

It is evident that all well-wishing people do their best against the evil of drunkenness; although they may differ in their methods, let us hope that the best may succeed soon.

A PENAL COLONY FOR THE UNITED STATES.

By H. S. Drayton, M. D., L. L. B.

The negotiations between Russia and the United States in 1867, for the purchase of Alaska, were attended, as this audience knows, with warm discussions in political and social circles, concerning the expediency of the acquisition of that distant territory.

It occurred to me then that the time might come when a part of it could be used to great advantage as a place for the establishment of a penal settlement for inveterate criminals, and also that it might be found a convenient place for the committal of other classes of persons whose presence had become a serious embarrassment or obstruction to the orderly management of our home communities.

With the later growth of vice and crime—a growth disproportionately large in comparison with the increase of population, especially in metropolitan centres—the impression has strengthened that a penal colony would be a measure fraught with very important results to the material and moral welfare of American society.

The statistics of most of our older States, especially of those on the Atlantic coast, with the one exception of Maine, show this large advance in crime upon the proportionate increase of population during the past ten years. In many of the States the necessity of providing further accommodation for the vice-bound and criminal, and the wretched issue of the vice-bound and criminal, is a topic of perennial discussion by general and local governments, and the burdens of expense for the sup-

port of penal and charitable institutions, imposed upon the tax-paying minority, are, as a consequence, constantly growing.

In the city and in the country great structures attract the eye of the stranger, and he is told so often that they are prisons or reformatories, or asylums, or poor-houses or "homes," that if a reflecting man, he is led to believe that half of society is composed of the criminal and vicious, the defective in mind or body, and paupers. That some of these public institutions are overcrowded in spite of the large appropriations made for building new or extending old structures to meet the increasing demands of criminal courts, is shown by a report lately published of the conduct of the reformatory at Elmira, N. Y. In that single institution are more than 1,700 young men. The Sing Sing and Auburn State prisons are crowded. One prison in Pennsylvania contains 2,400 convicts; another had 1,605 in 1884. Massachusetts, Connecticut, New Jersey, Virginia, Ohio, Illinois, Indiana. Kentucky, Tennessee, Georgia, South Carolina have the same pitiable account of inadequate prison accommodation.

The estimated number of prisoners confined in the different penal establishments of 37 States in 1872, was 38,000, an average of one to 1,000 of the population. This does not include the juvenile reformatories.*

According to the later returns of the census of 1880, there were nearly 60,000 persons confined in the prisons, penitentiaries and jails of the country, besides 11,340 in the reformatories. Mr. Sanborn, in his report at the London Congress, says that the 38,000 in confinement in 1872 merely represent about 250,000 persons who have been in prison for longer or shorter terms. Taking

*F. S. Sanborne, Trans. International Peniten. Congress, London, 1872.

ratio as a standard for estimate, we can say that the 60,000 of 1880 represent 450,000 who rendered themselves the subjects of judicial sentence involving deprivation of personal liberty. That this estimate is by no means excessive, it may be noted from recent data, in Washington, D. C. there were upward of 23,225 arrests made in 1885, with about 1,500 convictions, while in New York City there were 74,647 arrests in the same year, with 51,801 convictions. The great majority of these were for minor offenses, it is true, but their number is a startling evidence of the rapid development of criminal propensity, and confirms the announcement by police authority, that there are upward of 75,000 professional criminals afloat in New York City.

In Penn's Reports of Public Charities it is to be noted that in Pennsylvania the criminal inmates of prisons, penitentiaries, houses of correction and paupers, according to the census of 1870, were 13,046. In 1880 they had increased to 18,439, or 41 per cent. Excluding paupers, the increase of the criminal class in the ten years was 53 per cent. while the population of the State had meanwhile increased but 22 per cent. "Tramps" and vagrants are not included in the above summary, of whom 25,325 were fed at the almshouses of Pennsylvania between January 1 and September 30, 1880.

From an article published in the *Century* by that student of statistics, Mr. Washington Gladden, I quote:

"The only State in the Union that carefully collects its moral statistics, (Massachusetts), brings to light some startling facts representing the increase of crime within the past thirty years. In 1850 there was one prisoner to every 804 of the population. In 1880 there was one to every 487. The ratio of the prisoners to the whole population nearly doubled in thirty years."

Seventy-five per cent. of the prison-bound are under forty years of age, and being, except in a very few

penal institutions, brought under no systematic moral discipline, the great majority, when released, are as capable of mischief as before, and being hailed as veterans by their fellows in the old haunts of vice, their influence is stronger than ever, even to the extent of hindering the administration of justice and corrupting legislatures. Let me emphasize the fact, for it does not appear to receive the consideration it deserves, that to the convict class is due a very important influence in the generation and perpetuation of vice and crime. Let one examine the throng at any sporting rendezvous on an occasion of special interest to the patrons of muscular prowess—a boat race, a walking match, a ball match, a horse race—and he will find through the courtesy, say of an experienced detective, that many of those present, whose opinions may command the respect of the crowd, have served their terms in the penitentiary or State prison for felonious acts ; and he will be informed that it is necessary to keep them under surveillance as far as possible, as they are just as ripe and ready as ever for the commission of crime, and that most of them live on the profits of villainy. Therefore it is that most of the organized, deliberate attempts to steal and defraud, that come to light and furnish racy newspaper material for the newspaper reporters, are largely the work of ex-convicts whose prison experience developed no permanent check upon their propensity to evil, but rather confirmed it.

A glimpse of the inner operations of a great penal institution furnished by a writer to one of the Brooklyn newspapers, who relates merely what he saw, is obtained in the following :

"It is enough to sadden any man to look at the fifteen hundred desperate-looking wretches at Sing Sing. They are close shaven, down-trodden,

apparently hopeless, and utterly discouraged. They are not allowed to speak a word to one another under the severest penalties, and they work away with a dogged discontent that a man who has once seen them never forgets. It was rather impressive in itself to be among fifteen hundred men for hours, and not hear a single one of their voices.

"The abuses of Sing Sing have often been exposed and investigated, but there is still room for improvement. While I was there a poor, round-shouldered, sallow and unhealthy-looking convict was brought in from the iron-foundry. He held a cloth, which was liberally stained with blood, to his left eye. The doctor pushed him over by the window, opened the eye, wiped out the spark with a steel instrument, and sent the man out into the yard again. His keeper ordered him off to the foundry. The convict fairly cried as he begged to be allowed to bathe his eye or return to his cell for an hour; but he was sternly sent back to his work as pitiful, bloody and unfortunate a specimen of mankind as I have ever yet seen."

There may be a vein of exaggeration in this, as Sing Sing prison is considered well managed as prisons go, but if the treatment described were seemingly more severe to an inexperienced visitor than it really was, the inference reasonably drawn would be that the discipline there is in accordance with the original idea that prison life is properly a term of servitude and punishment for crime. Can we modify this idea in any material aspect without changing the fundamental purpose of the prison? Should the culprit expect ease and comfort as the price of his liberty? After trampling wilfully upon every moral principle, and despoiling others and society of rights most cherished, is he to be coddled with delicate attentions at the cost of those whose property and lives he has maliciously threatened or destroyed?

Albeit the tendency of sentimentalism, well marked in the work of many benevolent associations, is to regard the criminal as an unfortunate, a victim of circumstances, not a cruel, vindictive enemy to law and social convention; and if the gentle motives of some were carried into effect, the prison would become a "flowery bed of ease" and a place to be desired by the average citizen who would not object to being a prisoner of the community,

delicately fed and housed. How the sentiment of flower missions and the visits of tender ladies with fruit and cake may stimulate the ambition of the beetle-browed champions of the "jimmy" and pistol, was amusingly illustrated not long ago, when eighty inmates of the Kings County Penitentiary struck and stood out several days for a better bill of fare and less work. The ringleader, according to the statement of Keeper William Smith before the Commissioners of Charities and Corrections, "demanded chicken, fruit, cake and other delicacies as articles of frequent diet, and no work."

Mr. W. F. Round, Secretary of the N. Y. and National Prison Association, stated in a lecture delivered in the winters of 1886–7, that the convict at large costs the community upward of two thousand dollars—three or four times as much as keeping him in confinement. He also said that as a rule the discharged criminal was in a worse condition morally than before his imprisonment, which simply confirms what has been already said with regard to the influence of the convict in society. Ask an intelligent prison officer why this is so, and he would probably reply that to combine a system of punishment with such a system of beneficence as the proper intellectual and moral instruction of the criminal involves is a matter of no little difficulty, and requires men of rare mental constitution to understand and to apply.

We are pointed to the reformatory at Elmira, N. Y., as a solution of the problem, But Mr. Brockway, its Superintendent, is a gentleman of exceptional gifts for such work, and his institution deals with young men, many of whom are not fully developed in mental faculty. One writer describes this reformatory as "a great educational institution, the entrance to which is through the

door of crime." And another who believes that a prison should be maintained as a plan having a decided influence for the repression of lawlessness, asks with sarcastic accent: "Which is the easier policy, to let 5,000 children of tender years and pliant minds run wild without instruction, and give a classical education to 500 full-grown thieves, or to educate and care for the children and let the thieves take care of themselves?"

I trow that most of the benevolent people who advocate the building and equipment of large and elaborately fitted institutions in every State, of the reformatory and educational order rather than the penal, do not perceive the bearing of their proposal on the economical side of our civil life. How burdensome such institutions would necessarily become to the producing classes, especially with all the old machinery still in operation for the making of criminals!

But the State owes it to the community that the prisoner shall be subject to such discipline and training that when his term of confinement will have expired he may return to freedom prepared to enter upon the life of an honest, self-supporting citizen. A prime essential to wisely ordered discipline, and fundamental to moral praise, is useful industry. The economist rightly insists that the State must provide employment of some kind for its criminals while in duress, and that employment should be of a nature that will conduce to their welfare when restored to liberty. But here an industrial problem confronts us, of whose magnitude only those who are familiar with the labor agitation of the day have any true conception. The few institutions in the country wherein some branches of industry are conducted, are objects of suspicion and protest to the masses of the mechanics and laborers who are striving to earn an

honest subsistence. The champions of free labor forcibly declaim against the open marketing of the cheap prison products, and fairly insist that a general introduction of a system of prison labor would engender elements of serious disturbance in our social relations.

Were there a few hundred convicts and offenders only in the stone-bound wards of our State institutions the problem of labor competition might be adjusted, but when our prisons and penitentiaries contain tens of thousands, and to carry out any well conceived industrial plan would be to establish several hundred large factories or workshops, the output of which, in staple goods, would invite a great mass of purchasers because of their cheapness, the free workman can not be expected to submit tamely to a system so prejudicial to his individual and social interests.

Another element of depression forced upon American labor is the introduction of foreign workmen; this element is marked enough in many branches of industry East and West. President Harrison in a speech made last summer, touched upon the tariff agitation in these words:

"If it could be shown that your wages were unaffected by our system of protective duties I am sure that your fellowship with your fellow toilers in other industries would lead you to desire, as I do and always have, that our legislation may be of that sort that will secure to them the highest possible prosperity—wages that not only supply the necessities of life, but leave substantial margin for comfort and for the savings bank. No man's wages should be so low that he can not make provision in his days of vigor for the incapacities of accident or the feebleness of old age."

Mr. Harrison had in view the question of reduction of the duties on imports, a leading issue in the Presidential canvass, but important as this matter is in the view of either protectionist or free-trader, it has not the importance of the points bearing upon the subject of this paper, and will not have their prejudicial effect upon

the sentiment of the masses. The open discussion of free-trade and protection by demagogues and politicians may divert attention occasionally from matters that are of closer interest to him, but the workingman of America is becoming too intelligent to be deceived or hoodwinked by spurious arguments much longer, and he will soon demand a settlement of his claims on reasonable terms, and it will be at the peril of our national institutions if his demands are not rightly treated.

In view of the points that have been merely reviewed, and of other considerations of almost equal importance to which I shall refer later, I urge our economists and legislators to consider the proposition that is mooted in the opening of this paper.

The increase of crime, the inadequacy of the established means for the correction and reform of criminals, the rapid increase of the cost for the confinement and maintenance of criminals, their pernicious influence upon all the valued interests of civil and social life, the disturbing effect of marketing cheap prison manufactures in competition with the products of free labor, are grounds that in my opinion warrant the establishment of a convict settlement. England and France with less warrant founded their penal colonies many years ago, with results of incalculable advantage.

A system of transportation incorporating the best features of that in practice by either of those countries, and including such provisions as are consistent with the spirit of our institutions would, in my opinion, solve the criminal problem as completely as anything that might be suggested.

Alaska furnishes the required territory. Among her numerous islands are some large enough separately to accommodate all the convicts now in prison, and five

times as many more. For instance the island Nounivah, with its temperate climate, good soil, mines, fisheries and other resources, made the home of convicted criminals and properly officered, would ere long be studded with settlements. In such a relation the convict would be his own master, yet constrained to provide for his own maintenance—a most healthful hygiene, tending as it does to promote the development of a higher moral character—and would transform thousands who at home were regarded with terror, into peaceable and industrious men. A small commonwealth would be formed, in part self-supporting, and the expenses of transportation and police supervision would be the chief items of audit, and they, as compared with the expenditures now annually made for the maintenance of prisons in the whole country, would be insignificant—in fact, they would not be likely to exceed those of a State like New York or Pennsylvania.

Need I enumerate the benefits to society that would follow the practical accomplishment of such a measure? All classes would experience some degree of relief. Rich and poor would soon rejoice in the freedom from that indescribable fear and intimidation that the proximity of the lawless and brutal awakens, whether in bonds or at liberty. The industrious poor would be less oppressed, the wages of labor would become adequate to the needs of labor, the instrumentalities of vice would decline in vigor because moral influences would have more sway, and hundreds of prisons and penitentiaries would be converted gradually to purposes of economical and social utility. The "ticket-of-leave" man or returned convict would not find the old atmosphere and the old companions to inspire fresh deeds of villainy, were the old passions and propensities only kept in check by his

colony life, and the youth with a bias to turpitude would not breathe in his native atmosphere the *bacteria* of temptation and the germs of passional excitement at every turn, but rather incentives toward honesty and decency.

Sentimentalists might break out with a protest against sending the "poor creatures of uncontrollable impulses" to a far away locality and compelling them to work for their own support. It would be characterized by many of the benevolent, no doubt, as arbitrary and cruel. In answer it could be said that the brave men and earnest women who first settled upon the shores of New England, and who gave our country its best blood, encountered much greater hardship than it would be the lot of the convict to meet in Alaska. His would be a situation much removed from that of the early "transports" in wild Australia, yet that island continent to-day attests what the criminal may do in developing a wild country.

What a home field the missionary and philanthropist would have in such a colony! There religious, moral, educational agencies would be established, and more effective work done for the reformation of the people than is possible in the close, constrained, ungenial atmosphere of the State prison, or while the criminal is free amid the licensed immoralities that prevail in the cities.

Some optimistic moralist will be likely to plead that my proposition is unnecessary on the ground that ere long there will be established by the central government or by the State governments generally, wholesome laws suppressive or restrictive of those common instrumentalities to which overt crime and moral degradation are chiefly due, and then the abatement of offenses against law and decency will be rapid. I believe that such a

time of moral advancement will come, but as yet it lies in the uncertain future. What, indeed, are the signs? Have the combinations of reformers and temperance men in politics and out, and the crusades of earnest, anxious women east and west, accomplished so marked a degree of improvement that we may hope to reach that happy stage of moral elevation within even forty or fifty years? Do the increasing demands of organized charity, do the loud complaints of insolent mendicity and desperate vagrancy coming from all quarters, do the multiplying almshouses and workhouses, do the newly-erected asylums for the blind, the insane, the idiotic, the inebriate, and the demand for still more accommodation for these beneficiaries of the State—do those grand monuments of public and private charity, the hospitals—do the increasing number of arrests, and finally, does a daily press whose columns are crowded with accounts of crime and scandal, indicate an advancement in the line of true moral growth among the people?

Granting that a close inspection of statistics will show an absolute degree of improvement during the past fifty years—and an optimistic marshaling of *data* will be necessary for this in most of our States—the promise of a marked and early amelioration of a *permanent* character in public affairs generally, is far from encouraging. "The mills of the gods grind slow."

Meanwhile, what will the country have but the old procedure of exacting taxation, civil and social unrest, and the abridged privileges of the orderly citizen for the sake of the bad one. Meanwhile the clean and honest will be vexed by forced contacts with the lawless and filthy, and the innocent be intimidated and wronged by the guilty.

Foreign immigration suggests a point here that I would merely note *en passant*. I need not remind the intelligent American, and certainly no one of those present, that the stern necessity is upon our rulers to make some wise adjustment of this matter and put an end to the petty and injurious dealings that have characterized the relations of National and State officials to "assisted immigrants," imported laborers, the unconvertible Chinamen, etc. It were enough for the nation to receive and place in relations of usefulness annually half a million of healthy, industrious, order-loving foreigners with their multifarious languages and national customs, but when among those poured in upon us are thousands of inveterate criminals and of illiterate, destitute, disabled and diseased men and women, who come to America as to an asylum or hospital, where they will be provided for better than in the countries of their nativity, the most short-sighted must perceive that a serious public emergency from this side confronts us.

A section of Alaska devoted to settlement by the undesirable "slop" of Europe would prove of service toward abating the evil of their immigration and forestall recurrence of frequent international jangles. At the same time the foreign vagabond learning that on reaching the United States he would be sent to a far northwest territory, where, surrounded with "birds of kindred feather," a life would be found of that most objectionable sort that compels him to work or starve, would prefer to remain at home and risk his chances of living on the community in his old manner.

If, as many physiologists claim, the criminal is "an unfortunate" by inheritance, or a product of disease or evil training, and to be regarded the subject of kindness

and scientific medicine, rather than of vigorous punishment, our proposition is still appropriate, as it meets the requirement that such a view would specify. In the asylum of our American Botany Bay, with its system of police supervision and of mental and moral hygiene, the "unfortunate" criminal would be freed from the temptations and persecutions that allure and exasperate him at home, where license or freedom to indulge propensity is the order; consequently there the chances of his reformation and recovery of that physical and mental equilibrium that constitutes one a sound man and deserving of the full privileges of American citizenship, would be much more favorable.

Mr. Brockway sarcastically remarks from his point of view as a trained observer of the relations of society to vice and crime:

"When the world is wise enough to know what a few statesmen and philanthropists have found out, and what more are learning every day, that the only prevention of crime is to come through the education and better pecuniary condition of the people, when selfishness and personal schemes are lost sight of in benevolent endeavor, or are wisely made to subserve the welfare of the people, when we learn that education and wealth should give society succeeding generations of improved citizens and that this improvement shall tell throughout eternity, then there will be no difficulty in instituting suitable measures for repressing crime and for reforming a criminal."

If what has now been presented to you furnishes any solid ground for believing that the practical application of the measure which I urge upon your attention, will prove an efficient means toward the education and better

pecuniary condition of the American masses, and result in their advancement in comfort and happiness, then my object is accomplished. Let me ask you as jurists and physicians, as those who by virtue of their profession should take a leading part in all measures of public benefit, to co-operate in an endeavor to establish a well-furnished and properly ordered penal settlement for the nation.

SOME FORENSIC FEATURES OF PSYCHOLOGY.

By Prof. Thwing, M.D., of Brooklyn.

What bearings on law has mental science? What mutual intercourse, what common ground is held by these two departments of thought? The relation is threefold.

1. Psychology has an expositive, definite, interpretive value in forensic debates.

2. It is not only an interpreter of primitive powers and conceptions, but an authoritative guide in understanding their normal and diseased activities.

3. In many legal cases Psychology has appellate jurisdiction—it is a court of final appeal. These considerations constitute an urgent claim for a higher recognition, both on the part of the legal and medical professions, of this "youngest of the sciences," yet the *primum mobile*, the inclusive sphere of them all.

In the first place, it is a grand thing to have the ground of a discussion cleared up by luminous, fixed and exact definitions. "Nineteen-twentieths of theological disputes," says an eminent theologian, "come from lack of clear cut definitions." The inability of a witness in court to give the precise significance of terms used affords an opposing counsel great vantage ground. An attorney or witness who can distinguish between the real and the nominal significance, the verbal and logical use of terms of mental science, who can set limits to the vague, shifting meanings about which there is often quibbling—a man

who can and does distinguish between a subjective conception—like belief or personal conviction—and absolute truth, which is the reality of things—a man who can tell the difference between a delusion and an illusion, between consciousness or mental life and feeling—a man, in short, who is not disconcerted in being called upon to explain just what he means in mental processes and results—he is one who can speak with convincing power. The Anglo Saxon word *lag* (law) means something laid down. It ought to be exact and exacting, if it would command respect, in its minute truthfulness.

> "Yet lawyers hold it an offence
> With trifles small, one's soul to vex,
> *De minimis non curat lex.*

Few physicians, too, have yet proved the fullness of the ancient Hippocratean benediction, "That doctor who is also a philsopher is god-like."

Psychology is more than an interpreter—it is a guide. When law postulates man's identity, the continuity of his being, the freedom of his will, the rightfulness of obligation and kindred axioms on which law is founded, Psychology pushes its analysis, gives its expositions and settles its boundaries. It also deals in synthesis and brings isolated facts into accord and unity. It shows the soul's structure or mental anatomy, and its normal functions, mental physiology, and so aids us in understanding its diseased activity or mental pathology, on which a great part of litigation rests. A fruitful Psychology guides us into still broader fields with which jurisprudence, the science of justice, has to do, to wit, the soul's environing conditions, historically considered—for man is but a product and representative of the psychic and physical factors of previous generations to which an umbilical cord binds him—and socially,

as well, for he is but a part of a present complex organism, as truly as a finger is part of the physical unity called the body. Criminal anthropology recognizes these undeniable facts and points the alienist, penologist and reformer to them as the basis and impulse of much of the crime which it is the province of law to control and punish. It involves the biological and sociological study of criminal life; its physical and metaphysical aspects, its clinical and forensic, its moral and historic features; the solidarity of races, peoples and families, the laws of parentage and inheritance of ideas, with other ancillary themes. These are indispensable, for civilization never was so complex, intricate and full of perplexing relations. Our methods, therefore, whether punitive, philanthropic or remedial, should be correspondingly minute, comprehensive, elaborate and sagacious.

Lastly, Psychology has appellate jurisdiction. It is in many cases, a court of final appeal. So far as the subject matter of jurisprudence is concerned, law is the exposition and enforcement of civil rights and duties—briefer, the science of justice, the principal part of ethics, according to Aristotle. It assumes that man must exist in organized society and that he is made for it. "But is man thus endowed?" asks President Porter. "What is he as a social and political being? Psychology alone can answer. Law lays down as its axioms certain assumptions in respect to the authority and limits of government for the truth of which it must appeal to the consciousness of everyone who consults his own inner life. This science is therefore carried back, step by step, till its last footstep is firmly fixed in Psychology. Psychology is the common parent of many of the sciences. To every one of these sciences

the study of Psychology furnishes the necessary groundwork and is itself the necessary and appropriate introduction for the thorough understanding and orderly development of their teachings."

The first authoritative recognition of the relation of medicine to law was made by Germany early in the Sixteenth Century, and the beginning of American medical science dates from the founding of Pennsylvania College by Benjamin Franklin and others in 1755. When New York City was a base of operations for the British in the conquest of Canada, educated surgeons established military hospitals and gave an impulse to the study of medicine and surgery. The organization of the Medico-Legal Society in this city, in 1868, gave an impulse to the scientific study of Medical Psychology, in which the lamented Dr. George M. Beard was a leader. Some years later, 1870, the American Medical Association at its annual meeting in Washington, adopted a resolution requesting medical colleges to establish chairs of Psychology. But as Germany at first found it hard to secure an alliance of law with medicine, so this innovation has been opposed by some on account of their ignorance and prejudice and by many more on account of the already crowded curriculum of study. A reaction has taken place. Each of the three learned professions —divinity, law and medicine—are now raising the standard of admission to all reputable schools and are extending the course of study, either by optional post graduate work or by compulsory examinations. This is in keeping with the rapid advance of science, the perfection of its instrumental aids and appliances and the general increase of popular intelligence. The President of the Georgia Bar Association, in the *American Law Review*, April 1889, admits the decadence of the

legal profession and ascribes it, first, to the low standard of admission to the bar, and second, to the popular impression of inefficiency in the administration of the law which unfavorably affects the popular estimate of the profession. "Is it to be a trade or a profession?" The danger is shown of paltering with the truth, a mental injury as well as a moral wrong, for intellectual integrity is of supremer importance than professional success. As Browning suggests, Pompilius is patron to-day and prosecutor to-morrow of the same individual, manipulating truth to suit circumstances. With his lips

> Language goes on, easy as a glove,
> O'er good and evil, smoothing both to one.

The conscientious study of mental science will be at once a moral tonic and an intellectual corrective. Human action in its normal and aberrant forms is to be faithfully examined in the light of the realized science of to-day. Quiddities and sophistries and all illusory introspections must be brought face to face with the ultimate and irreducible facts of individual experience and actual life. From these there is no appeal. Superior natures are always attracted to these ennobling pursuits. They realize the truth of the Roman adage "*Quantum sumus, scimus,*" the breadth and volume of our mind measure the dimensions of our knowledge. We might well add, "*Quantum sumus, agimus,*," our medical capacity and discipline measure the scope and efficiency of our work in the world as well. To the promotion of this opulent professional culture this notable Congress is directly contributing.

THE PRESERVATION OF MEDICO-LEGAL EVIDENCE IN CAPITAL CRIMINAL CASES AS AFFECTED BY THE DISPOSITION OF THE DEAD.

By Rev. C. C. Harvey, of New York.

Where the proofs of capital crime lie in part, directly associated with the bodies of the victims of crime, the character of the disposition which is made of such dead bodies affects the evidence which may be all essential to the conviction of the criminal.

Such disposition of dead bodies may be made as shall make the securing of the silent proofs which they alone can render, a very easy and simple matter, make it a difficult task, or such as shall wholly destroy all such proofs and render their recovery forever impossible.

That disposition of the victims of capital crime which buries them under the earth is one which makes post-mortem investigation more or less disagreeable, troublesome and difficult. An illustration of this was given to me but a few days since by Prof. Rudolph A. Witthaus. He was called upon to make an autopsy on a body which had been buried nine months in a small cemetery in Chatham, N. Y. It was in cold weather. The bottom of the grave was found to contain two or three feet of water. The coffin was removed with great difficulty and when brought to the surface, was filled with water. The details of the disgusting duty which he was there obliged to perform, as he related them, I need not repeat. The imagination can easily suggest them.

These and many other disagreeable features and considerations inseparable from examinations after inhuma-

tion, those of a social and sentimental character included, are such as to render the undertaking one to be avoided if possible, and to be approached only under the greatest stress of circumstances. And thus, as is well-known, it is frequently delayed or neglected where there could be but little doubt that an investigation, at once bold and exhaustive, should have been made. Many a woman has enjoyed a change of domestic relations by the use of "compound coffee," which has been imbibed in some cases by a series of husbands who had thereafter slept their last sleep. Yet the inconsolable grief of the bereaved (?) had disarmed suspicion which was aroused only when Mrs. Grundy began to say something about a "frequent succession of husbands." In the case of ordinary entombment of bodies the evidences of crime, through swift decomposition, are lost much quicker than in cases of inhumation.

Another mode of the disposing of victims of capital crime, and the only method of disposing of the dead, which is at all employed, other than the almost universal one of inhumation, is that one in which fierce heat, of more than two thousand degrees Fahrenheit, makes a very rapid and complete destruction of all the tissues of the body, as well as of every substance associated with those tissues, which is destructible before the most intense heat. Some of the most eminent American jurists have already given, privately, the opinion that, should incineration threaten to become a prevalent mode of disposing of the dead, Statutes would have to be enacted inhibiting it, because of its absolute destruction in many cases of the evidences of crime. Not alone in cases of poison, but of malpractice and of assault in every diversity of form. It may be replied that a competent board or commission could be provided for,

who should make an examination into the cause of death in every case and thus meet the legal objection raised. But due reflection must show the fallacy of such a suggestion. For, as will be admitted by every practitioner, though the symptoms and manifestations may seem to point directly to certain causes of death, the unmistakeable cause cannot, in a vast number, if not in a majority of cases, be absolutely and infallibly known without a complete autopsy. The almost insuperable objections and embarrassments in the way of such a practice as that, are too apparent to be seriously considered by thoughtful minds. Therefore it would seem to be quite impracticable.

Suppose, now, a perfectly practical method of disposing of human remains could come into use, which would be thoroughly sanitary and satisfactory in all its appointments and results and which would keep bodies under such conditions so as to be easily and always accessible for medico-legal examinations, would that not be a great *desideratum ?*

It affords me great pleasure to be able to say to this Congress to-day, that such a method has been evolved from much thought and experiment, and is now in progress of being provided for the public.

It consists of the scientifically applied process of desiccation. The method is an entirely new departure from any heretofore employed for disposing of the dead. It avoids all the loathsome and revolting features of earth-burial, with its endless train of unsanitary evils and dangers, through poisoning the air, earth and water, and the storing of disease-germs, liable to break out in future epidemics ; avoids the dangers of the unsanitary tomb and also avoids the shock to the delicate sentiment which shudders at the thought of the destruction of the

remains of loved ones by fire ; it avoids the medico-legal objection to the destruction of the evidences of crime and is even more perfectly sanitary than the process of cremation.

This method is that of desiccation. The tissues are deprived of moisture, leaving them in a state of complete preservation. A condition which renders a critical examination and a chemical analysis of them, at any time, a very simple and easy matter.

But to gain an intelligent conception of how desiccation is secured and how the bodies are accessible thereafter, a description of the place in which it is accomplished, as well as of the process itself, will be necessary. A great number of sepulchres are constructed together in one grand mausoleum. The sepulchres are formed of concrete, in rows and tiers, similar to the vaults in a safe deposit bank ; except where family groups or clusters are specially arranged, with sitting rooms or parlors adjoining them.

These sepulchres are to be constructed in large, magnificent and elegantly appointed mausoleum buildings, much finer and grander than any the world has heretofore known. They may be built after any style of architecture, Egyptian, Corinthian, Renaissance, Romanesque, or in less classic forms. A building one hundred feet long by one hundred feet wide, will contain 10,000 sepulchres ; one three hundred feet long by one hundred feet wide, will contain 30,000, or a number equalling the usual allowance for a cemetery of some ninety acres, thus showing a great economy in space, which is so valuable in the neighborhood of large cities.

These buildings are to be constructed of concrete throughout, except the outer walls, which may be of granite, brick, vitrified brick, blocks of glass, blocks of

slag, or of any other time proof and indestructible material. The sepulchres have one opening, which fronts on a corridor, for admitting the body; and, when that is placed within, a plate glass front is hermetically sealed into that opening and this is again covered with a marble shutter and made secure.

There are conduits formed in the concrete, which bring dry air into the sepulchres at one end and others which take it out at the opposite end. The air, as it passes out, is no longer dry but is laden with gases and moistures which it has absorbed from the bodies, and is now borne through conduits to a furnace located in an annex building, where it passes through the fire and is purified, so that deleterious gases or offensive odors can never escape into the atmosphere. The air which is drawn into and passes through the sepulchres is first rendered anhydrous in a large drying room, into which it is forced and from which it is distributed to the sepulchres, where it absorbs the moisture from the bodies in its passage.

By this process a steady current of dry air is pouring into and through the sepulchre and doing its work most efficiently on its way.

Very few persons, even among chemists, are fully aware of the marvellously absorbing power of absolutely dry air, and the greedy avidity with which it seizes and appropriates moisture. When a moderate current of such air envelopes a human body in an air-tight sepulchre, constantly drawing the moisture out of the body and bearing it away, the dry air flowing in as the moisture-charged air and gases are drawn out, the process of desiccation goes steadily and rapidly forward until it is accomplished, which is done in from two to six months.

After the work is finished the conduits are closed.

As dry air only can be in the sepulchre at the time it is closed and as the sepulchre is hermetically sealed and therefore atmospheric air cannot reach the now desiccated body, oxidation cannot ensue. There the body will repose in security and without offence for a period which is indefinite.

It should be understood in this connection, however, that experiments have proved that the use of atmospheric air in its natural state (unanhydrited) will secure the same *sanitary* results; though in this case the desiccation will be less perfect and not so satisfactory for medico-legal purposes.

It will be of interest to state here, that experiments in the desiccation of both animal and human bodies have been going on for nearly two years with most gratifying results. The body of a man who died one year ago is now lying in an apparatus at the New York University Medical College in a complete state of desiccation. In another the body of an adult is now undergoing desiccation in a similar apparatus, the process having been commenced four weeks ago.

This method of disposing of the dead places the victims of capital crime under conditions where their bodies are as readily accessible at any time as they were when in life their doctor or their lawyer could call upon them in their own drawing-room.

The criminal, with his victim in a grave, feels comparatively secure, and after the lapse of a few months, entirely so; his victim cremated and the evidence of his crime consumed by a crucible heat, he feels quite at his ease, and secure in the knowledge of the loss beyond recovery, of that only which could convict him.

But, his victim, in a sepulchre in the new mausoleum,

where the tissues are all preserved and as accessible as he himself is when the landlord calls at his door for the rent; the terrors of fear and consequent upon it, the lashings of conscience, bring him to torment before his time and leave him always, so long as life shall last, in a condition where he is liable to be faced by the proofs of his crime and to expiate it under the law.

THE ABOLITION OF THE CORONER IN MASSACHUSETTS.

By Theodore H. Tyndale, Esq., of the Boston Bar.

In 1877, several things conspired to make Massachusetts look anew and closely, at the constitution, functions and practices of the ancient office of the coroner, and to inquire whether these were based on reasonable views and sound policy, and tended to any valuable result.

This examination disclosed two important groups of facts. The first was that the coroner united in one person the functions proper to a medical expert, an administrator of the law, or judge hearing evidence and passing upon its admissibility, and of a witness.

His first duty was to view the remains and, perhaps assisted by some physician, perhaps alone, to ascertain from physical inspection, and possibly autopsy, whether a supposed death by violence, was violent (*i. e.*, involving the act of another) or natural. The next step was to summon a jury and preside over and conduct the hearing, involving, of course, the testimony of other persons to facts connected with the death; and the third and last duty was to give his own testimony to the jury over whom he presided, concerning his investigation and examination.

Here then was a functionary uniting two wholly diverse and in their nature diametrically opposite functions—one a scientific investigation, the other a judicial determination. A scientific investigator, and subsequent witness, is in the nature of his calling, of a mind

and temper wholly different from those of a judge, who, never coming in personal contact with the facts, receives them from others, and calmly balances them and passes judgment. Science is armed with a microscope, while justice is blind, and it is impossible for one man to unite in his person the knowledge and qualities requisite for both kinds of inquiry. In point of fact the office with us was often held by men who were neither physicians nor lawyers, and who were consequently not fitted to discharge either function creditably.

We do not entrust our *private* affairs to persons wholly unskilled in their discharge; why should the *State* conduct its business on a different plan? No professional man who understands the scope and duties of his own profession will assume the dangerous responsibility of practising another. Yet in the coroner we had an official trying, and in matters involving the most momentous consequences, to practise two professions, neither of which he might be competent for.

Now consider for a moment that the purpose of all these proceedings was to discover whether a crime had been committed, and that these proceedings were often the initiatory steps to indicting and putting some person on trial for his life, steps taken at a time when the deed and its traces were fresh, and the gravest interests alike of the State and of the suspected individual, demanded the utmost fairness, the highest attainable skill and the promptest possible action, and you see at once what risks of miscarriage of justice were run, what irreparable injury might be done, and what results of incalculable importance would inevitably be lost by this incongruous union of incompatible functions in one man—and that man too often wholly unskilled, and not fit for either of his important duties.

For you must know that we in Massachusetts *appointed* our coroners—anybody on any body's recommendation might obtain the office and in point of fact, many unworthy men did obtain it—and Boston then had 43 coroners, many more than London, New York, Brooklyn, Philadelphia, New Orleans, Chicago, San Francisco, Baltimore, Washington and Cincinnati all put together.

Here in New York I believe you *elect* these functionaries—what guaranty of special fitness that involves, I leave my auditors to guess!

The second group of facts disclosed by a nearer view of the office, was that relating on the one hand to its results and on the other to the results it prevented.

The coroner notified a constable, the constable summoned a jury, the jury were sworn, the body was viewed, one or more hearings were held, the testimony was submitted, the jury returned a verdict—and *absolutely nothing* resulted from all this.

The verdict was not conclusive; it was not evidence, and was not even used at the subsequent trial; the statements made by the witnesses at the coroner's inquest were not evidence, the suspected person was not bound over upon it, nor until after a rehearing of the whole matter in the criminal court. The criminal courts proceeded wholly without reference to the inquest of the coroner's jury; practically it was altogether useless, nothing whatever being done with it, no subsequent proceeding being based upon or assisted by it; and the publicity of the proceedings, often ignorantly conducted by a person incapable of judging of the relevancy and validity of evidence, tended to thwart justice, and in this age of eager reporting, permitted a demoralizing mass of improper matter to be paraded in the public prints—warning the criminal, if not in custody, at every

stage of the progress of the evidence, and tending to debase and corrupt the minds of young readers.

In England, the coroner, when the verdict inculpates any person, still binds him over to appear at the next assizes; but a parallel proceeding by indictment in the regular courts is forthwith begun, upon which alone he is tried. Nevertheless, if the courts find no cause to indict, and discharge the prisoner, he is still bound to appear at the assizes to which the coroner bound him over, to be there discharged. We did not even *pretend* to do anything with the coroner's verdict, but contented ourselves with simply doing *nothing*.

We decided to do away with the useless coroner's jury, to abolish the office of coroner as theretofore constituted and to divide the functions of the office between skilled medical men to make the physical investigation, and the already existing courts of first instance to hear the evidence and apply the law. It seemed to us that the question whether or not a death was violent, was for the physician and chemist, and the question whether that violence, under all its circumstances, was a crime, was for the judge. In technical language, whether a homicide had been committed, was a question of medical science, whether that homicide was justifiable, in self-defence, or a crime. and what degree of crime, was a matter of legal determination.

With the abolition of the composite functionary and of the jury, we gained a highly trained class of "medical examiners," an office gladly accepted by the first physicians in the State; we opened the door for special interest in, and previously unknown penetration into, fields of detailed investigation in pathology; we have laid the foundation of a valuable body of observed facts

as shown by the publication of our Medico-Legal Transactions, contributed entirely by the medical examiners; we have attained accuracy, and we have never, since the passage of the medical examiner act, failed in a single prosecution, for want of sufficient clearness of the medical testimony. The previous statistics were—some hundreds of inquests annually—some tens of convictions. Now the great majority of prosecutions begin with the skilful investigation of trained men acting promptly and delayed by no cumbersome meaningless machinery, and end in convictions. In other words, many cases formerly begun under suspicion of a violent death, are now promptly disposed of by the competent physician as being due to natural causes; and whenever the medical man has said, here was violence, the testimony has supported his assertion to the satisfaction of the trial juries. But from what has already been noted, how could you expect *promptness* under the coroner system? A coroner, a constable, six random jurymen—two or three sessions as a rule. And accuracy! You will scarcely believe me, when I recite to you some of the "medical" testimony given at inquests which it was my duty to bring to the light of publicity at the time of our change of system.

An employée of a railroad was run over and badly crushed by a freight-car. The medical "expert," (the coroner's brother in this case, a so-called eclectic physician) reported, "I found every bone in his body broken, especially the *humus*." And this was serious business, not intended to be humorous.

In a case of supposed abortion in London, a medical practioner testified that the fulness of the breasts attendant on impregnation, was the consequence of powerful medicines; that the natural opening of ducts about the

os uteri were punctures, and finally, that the gall-bladder was filled with *florid* bile.

Dr. Guy relates that he was summoned by a coroner in a case where a woman previously in good health, was seized with violent vomiting in the night and died the next morning. The suspicion of poison was strongly confirmed by the swollen and crimson appearance of the body. A bloody-frothy scum issued from the mouth. She had complained of a burning sensation at the stomach and had expressed her opinion before death that she had been poisoned. Dr. Guy refused to give any opinion as to the cause of death without the opportunity of a post-mortem examination.

The coroner, who in this case was not a medical man, being in great haste to hold another inquest in another part of the city, and seeing the bloody scum issuing from the mouth, remarked to the jury that it was entirely unnecessary to open the body, as there was no doubt whatever that the woman died from rupturing a blood-vessel and advised them to return a verdict to that effect, although another physician who was present testified his belief that the woman died from the effects of poison. The verdict of the jury was in accordance with the coroner's recommendation. Being dissatisfied with such a flagrant dereliction of duty, Dr. Guy made known the facts of the case to the mayor, who caused the body to be disinterred, when it was satisfactorily proved that death had been caused by arsenic. Officers were sent in pursuit of the husband, but without success, as he had fled from the city, and thus in all probability a murderer escaped from justice.

A similar result followed the double inquest held in the famous *Bravo* case in England.

Chemical analysis of the vomited food and of the con-

tents of the intestines conclusively proved it to be a case of poisoning by tartar emetic. The coroner, however, adopting from the first the theory of suicide, heard only a portion of the testimony and neglected to preserve and have analyzed the contents of a bottle of wine partaken of by the deceased just prior to his fatal illness, and positively declined to examine one of the physicians who had been in attendance and offered to testify. The result of this perfunctory proceeding was a verdict that the deceased died from the effects of antimonial poison, but how or by whom it was administered there was no evidence to show. In other words, the only fact found by the verdict was that which the medical inquiry satisfactorily established, that the death resulted from poison, and the only purpose for which an inquest is ever justifiable—to ascertain whether a crime had or had not been committed—was left wholly out of sight. The Attorney General's attention was drawn to this farce, and he promptly took steps to have another inquest held. The Solicitors of the Treasury and other eminent counsel were engaged upon the case, and after many weeks of a most searching investigation, the second verdict was returned to the effect that Mr. Bravo did not commit suicide; that the cause of his death was not accident, but that he was wilfully murdered by having tartar emetic administered to him, but that there was not sufficient evidence to fix the guilt upon any person.

If a crime was here committed, the failure of the coroner to inquire into facts connected with the death, such as examining the contents of the bottle from which Mr. Bravo had partaken, probably defeated the ends of justice; if it was not a case of crime, but of suicide or accident, the hurried and slip-shod manner in which the first inquest was conducted, aroused a painful suspicion

and occasioned a long and expensive, and as it proved, fruitless investigation. Proper care and a decent regard for the important interests involved would have insured the utmost care at the first hearing, and obviated the needless second inquest. These are a few illustrations of the worthlessness of the proceedings under the cumbersome and long out-grown coroner system.

In what particulars has Massachusetts improved the administration of justice in this, its earliest, and in certain respects, most important, stage? What we sought to attain were swiftness and certainty. To attain these we do not now, as formerly, begin unfounded prosecutions, and when we do institute proceedings they come to a satisfactory conclusion.

A chair of forensic medicine has been founded in Harvard University, and our Law Department, curiously wanting heretofore, in a proper officer to *gather* the evidence (this having been left to any random policeman formerly), has done its share, by appointing a skilled and by this time highly experienced officer, to take charge of this important work.

So we have attained that greatest deterrent of crime, that chief terror to criminals—swiftness in discovery, and certainty in punishment.

Incidentally a gain, dear to the lover of social cleanness and morality, has been attained. I refer to the total disappearance from the press—except as news from other States—of the nauseous and offensive details formerly furnished by coroner's inquests and eagerly sought after by prurient curiosity mongers. These changes have been wrought by a simple act abolishing the office of coroner, and appointing for Boston two, for each other county in the State some four medical examiners, whose business is solely the physical examination and subsequent giving of testimony.

The Medical Examiner, calling in two witnesses notes the appearance of the body, its position and the surroundings, and being authorized by the District Attorney, Mayor or Selectmen, makes an autopsy, carefully reducing to writing every fact and circumstance, tending to show the condition of the body and the cause and manner of death. If he judges the death to have been caused by violence, he forthwith notifies the District Attorney and the Court, filing a copy of his record of autopsy with each, and certifying to the Registrar of deaths the name and residence, or if unknown, a description of the deceased person. He may call in a chemist to aid in the examination.

Nor has this step brought an increase of expense. While justice at any cost wisely administered is manifestly worth more than the previous fruitless and useless work, it is gratifying to say, that the new system is actually costing Massachusetts about one-third *less* than the old method.

The Court or Trial Justice then holds an inquest, with power to separate witnesses and exclude the public. At this inquest the District Attorney may be present and may examine the witnesses. No one being at that stage formally accused, no wrong is done and great harm—both in the direction of premature information, and in that of unwarranted accusation, is avoided.

The new system has now been in operation about twelve years, and has proved itself capable of exact and valuable work. No instance of willful dereliction of duty under it has taken place. It has won the commendation of judges, prosecuting officers and the general public; and may fairly be pronounced a step in the direction of purifying the public service.

ELECTRICITY AND THE DEATH PENALTY.

By Clark Bell, Esq.,

President of the Medico-Legal Society of New York.

THERE has been for more than a quarter of a century in this State a prejudice against the scaffold and the hangman.

Those who have yielded to the stern exactions of the law, which demands "a life for a life," have felt an almost insurmountable repugnance to the rope.

The bungling of sheriffs' assistants, the negligent or ignorant adjusment of the noose, have often caused such revolting scenes at public executions as to fill beholders with horror; and add to that ever increasing number, now close to a majority, who demand the entire abolition of the death penalty as a punishment for crime.

The removal of the scaffold as a factor in the civilization of our century has engaged the attention of the Medico-Legal Society for many years.

The first introduction of the subject before that body was the paper of the eminent French scientist Ambrose Tardieu, entitled "Diagnosis of Hanging" (Medico-Legal Papers, Series 3, p. 40).

The late Dr. Alonzo Calkins read a paper before that Society, in September, 1873, entitled "Felonious Homicide; its Penalty, and the Execution Thereof Judicially," advocating the abolition of death by hanging, and discussing various methods as desirable substitutes (Medico-Legal Papers, Series 3, p. 250).

The discussion was renewed before the Society by Prof. J. H. Packard, of Philadelphia, who strongly urged the abolition of the hangman's rope and recommended as the most desirable substitute, death by inhalation of sulphuric oxide gas (Medico-Legal Papers, Series 3, p. 521).

The whole subject was again brougnt before the Medico-Legal Society in February, 1888, by Dr. J. Mount Bleyer, in a paper entitled "Best Methods of Capital Punishment" (*Medico-Legal Journal*, Vol V., p. 424).

The Legislature of the State, upon the recommendation of Governor Hill, in his messages of 1885 and 1886, named a commission to examine the subject and report their conclusions, composed of Hon. Elbridge T. Gerry, a member of the Medico-Legal Society; Mathew Hale, Esq., of the Albany bar; and Dr. Alfred P. Southwick, of Buffalo.

On January 17th, 1888, this Committee submitted their report to the Legislature of New York. It is a very exhaustive and elaborate document, too long for insertion here. It gives the history of human punishments for crimes in earliest times and in all countries.

It enumerates and describes thirty-four different methods in which the death penalty has been hitherto inflicted.

The guillotine is in vogue in nineteen civilized countries; the sword in nineteen; the gallows in three; the ax in one; the cord in one, while executions are public in twenty-nine countries and private in seven.

The Committee claim and enumerate the following, as facts demonstrated by their inquiry:

1. That the effort to diminish the increase of crime by the indiscriminate application of capital punishment to various offences involving different grades of moral turpitude, or, in other words, by enlarging the number of capital offences, has proved a failure.

2. That any undue or peculiar severity in the mode of inflicting the death penalty, neither operates to lessen the occurrence of the offence nor to produce a deterrent effect.

3. That from the long catalogue of various methods of punishment adopted by various nations at different times, only five are now practically resorted to by the civilized world. These five are: 1, The guillotine; 2, The garrote; 3, Shooting; 4, The sword; 5, The gallows.

In recommending a change from the present barbarous and inhuman system of hanging, four substitutes are considered: 1, Electricity; 2, Prussic Acid or other poison; 3, Guillotine; 4, Garrote.

This Committee do not seem to have considered the proposal made by Prof. Packard, of a painless death by inhaling sulphuric oxide gas in a small room in each jail, nor the lethal chamber suggested by Dr. B. Ward Richardson, of London; and they discard the use of the hypodermic injection of prussic acid or other deadly poison, as "hardly advisable because against the almost universal protest of the medical profession."

Their conclusions, after a careful, thorough, very able and exhaustive examination of the whole subject are as follows:

1. That death produced by a sufficiently powerful electric current is the most rapid and humane produced by any agent at our command.

2. That resuscitation after the passage of such a current through the body and functional centers of the brain is impossible.

3. That the apparatus to be used should be managed to permit the current to pass through the centers of function and intelligence in the brain.

The commission suggested other considerations of great public interest, which may be stated as propositions:

(1). That the State, by the present universal sentiment of mankind, can only justify itself in taking human life as a punishment for violation of laws; inflicting the death penalty, where necessary, for the safety of society and to deter others from the commission of crime.

(2.) That the State has not the right to torture the criminal, nor to inflict any punishment whatever in any vindictive spirit or by way of retaliation for the crime.

The committee submitted a draft of a bill and recommend:

(*a*) That executions should be private.

(*b.*) That the details of the execution should not be furnished to the public press; and,

(*c.*) That the bodies should be delivered to medical schools for dissection in aid of science, or be buried in the prison yard.

The idea for punishment for crime has colored all human laws.

Such legislation has been called *punitive* for centuries.

These statutes are denominated *penal* in all the codes.

It is a little more than half a century since hanging was the penalty in England for more than one hundred statutory offences, many of which are now regarded as trivial.

Nearly all of these are abolished; but we still call the measure of punishment *penalties*, and we even say "the death penalty" when we discuss it, and use the term "*capital punishment*" for judicial killing.

The report of the Legislative Commission, considered in its broadest and ablest aspect, outside the abolition of hanging and substituting the electric current, lies in claiming that the universal public judgment and opinion of mankind should be recognized by the law-making power, declaring:

That the penalty for the violations of the law in what are called "capital cases" should not hereafter be regarded or treated as punitory.

That the State does not claim the right of inflicting any punishment upon the homicide in a vindictive or retaliatory sense, or in any degree or view as "punitory" or compensatory for the act committed.

That beyond the protection of society, the rights of men and what is called the "deterrent effect" of human punishment, the State has neither the right nor wish to go.

The Medico-Legal Society, by a committee appointed February, 1888, duly considered the whole subject, and the report of that committee was made to the body at the

March meeting, 1888, unanimously adopted by the Society, and transmitted to the Legislature. The report was prepared by myself and met the approval of the entire committee and was as follows:

REPORT OF THE COMMITTEE ON BEST METHODS OF EXECUTING CRIMINALS.

To the Medico-Legal Society.

The Committee to whom was referred the subject of The Best Method of Executing the Death Penalty, respectfully report:

That in the consideration of this subject they have considered the several papers read before the Medico-Legal Society by Ambrose Tardieu; Dr. Alonzo Calkins; Prof. J. H. Packard, of Philadelphia; Dr. J. Mount Bleyer; and the report of Hon. Elbridge T. Gerry; Alfred P. Southwick, M. D., and Mathew Hale, Esq., Commissioners, made to the Legislature on January 17, 1888, which were, by action of this Society, laid before this Committee at the February meeting.

Your Committee are of the opinion that the Commissioners are entitled to the thanks of the Legislature and the public, for the able and exhaustive labor they have bestowed upon the subject. Your Committee are of the opinion:

1. That the reduction in number by legislation among civilized States, of what are designated as capital offences, is in accord with enlightened civilization, and that its practical result has been the diminution, rather than the increase of crime.

2 That it should be legally established by legislative enactments, that the State, in fixing penalties for crimes, has no right to inflict a vindictive punishment upon a criminal, in any spirit of vengeance or retaliation. That the object and justification of punishment should be to deter others from the commission of crime.

3. That the provisions of our Constitution "that cruel and unusual punishments shall not be inflicted" should be enforced by appropriate legislation, and all existing statutes repugnant to either its letter or spirit be repealed.

4. That hanging should be abolished as cruel and contrary to the public sense of our civilization.

5. That as a substitute for the present death penalty we would recommend:

(1.) Death by the electric current, or—

(2.) Death by hypodermic or other injection of poison, or—

(3.) Death by carbonic oxide gas injected into a small room in each jail, as recommended by Prof. John H. Packard (Med.-Leg. Papers, Vol. III., p. 521), giving our preference to the first, or death by electric current.

6. That in our judgment executions should be private and not public.

7. That if it were possible to prevent the publication of details of executions in the public press, it would be a public good.

8. That the bodies of criminals should be delivered to the medical schools, after execution, for dissection.

Your Committee do not pass upon the question of the propriety of inflicting capital punishment by the State, against which there is strong objection in the popular mind.

The report is intended to be limited to the subjects embraced in the report now before the Legislature of the State and the papers read before this Society.

R. Ogden Doremus,
Clark Bell,
J. Mount Bleyer, M. D.,
Chas. F. Stillman, M. D.,
Frank H. Ingram, M. D.,
Committee.

The Legislature of New York passed the following law, which received the approval of Governor Hill:

Laws of New York.—By Authority.

[Every law, unless a different time shall be prescribed therein, shall commence and take effect throughout the State, on and not before the twentieth day after the day of its final passage, as certified by the Secretary of State. Sec. 12, title 4, chap. 7, part 1, Revised Statutes.]

Chap. 489.

AN ACT to amend sections four hundred and ninety-one, four hundred and nine-two, five hundred and three, five hundred and four, five hundred and five, five hundred and six, five hundred and seven, five hundred and eight and five hundred and nine of the Code of Criminal Procedure, relative to the infliction of the death penalty, and to provide means for the infliction of such penalty.

Approved by the Governor June 4, 1888. Passed, three-fifths being present.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section 1. Section four hundred and ninety-one of the Code of Criminal Procedure of the State of New York is hereby amended so as to read as follows:

§ 491. When a defendant is sentenced to the punishment of death, the judge or judges holding the court at which the conviction takes place, or a majority of them, of whom the judge presiding must be one, must make out, sign and deliver to the sheriff of the county, a warrant stating the conviction and sentence and appointing the week within which sentence must be executed. Said warrant must be directed to the Agent and Warden of the State prison of this State designated by law as the place of confinement for convicts sentenced

to imprisonment in a State prison in the judicial district wherein such conviction has taken place, commanding such Agent and Warden to do execution of the sentence upon some day within the week thus appointed. Within ten days after the issuing of such warrant, the said sheriff must deliver the defendant, together with the warrant, to the Agent and Warden of the State prison therein named. From the time of said delivery to the said Agent and Warden until the infliction of the punishment of death upon him, unless he shall be lawfully discharged from such imprisonment, the defendant shall be kept in solitary confinement at said State prison, and no person shall be allowed access to him without an order of the court, except the officers of the prison, his counsel, his physician, a priest or minister of religion, if he shall desire one, and the members of his family.

§ 2. Section four hundred and ninety-two of said Code of Criminal Procedure is hereby amended so as to read as follows:

§ 492. The week so appointed must begin not less than four weeks and not more than eight weeks after the sentence. The time of the execution within said week shall be left to the discretion of the Agent and Warden to whom the Warrant is directed; but no previous announcement of the day or hour of the execution shall be made, except to the persons who shall be invited or permitted to be present at said execution as hereinafter provided.

§ 3. Section five hundred and three of said Code of Criminal Procedure is hereby amended to read as follows:

§ 503. Whenever, for any reason other than insanity or pregnancy, a defendant sentenced to the punishment of death has not been executed pursuant to the sentence, at the time specified thereby, and the sentence or judgment inflicting the punishment stands in full force, the Court of Appeals or a judge thereof or the Supreme Court or a justice thereof, upon application by the Attorney-General or of the district attorney of the county where the conviction was had, must make an order directed to the Agent and Warden or other officer in whose custody said defendant may be, commanding him to bring the convict before the Court of Appeals or a general term of the Supreme Court in the deparment, or a term of the Court of Oyer and Terminer in the county where the conviction was had. If the defendant be at large, a warrant may be issued by the Court of Appeals or a judge thereof, or by the Supreme Court or a justice thereof, directing any sheriff or other officer, to bring the defendant before the Court of Appeals or the Supreme Court at a general term thereof, or before a term of the Court of Oyer and Terminer in that county.

§ 4. Section five hundred and four of said Code of Criminal Procedure is hereby amended so as to read as follows:

§ 504. Upon the defendant being brought before the court, it must inquire into the circumstances, and if no legal reason exists against the execution of the sentence, it must issue its warrant to the Agent and Warden of the State prison mentioned in the original warrant and sentence, under the hands of the judge or judges, or a majority of them, of whom the judge presiding must be one, commanding the said

Agent and Warden to do execution of the sentence during the week appointed therein. The warrant must be obeyed by the Agent and Warden accordingly. The time of the execution within said week shall be left to the discretion of the Agent and Warden to whom the warrant is directed; but no previous announcement of the day or hour of the execution shall be made, except to the persons who shall be invited or permitted to be present at said execution as hereinafter provided.

§ 5. Section five hundred and five of said Code of Criminal Procedure is hereby amended so as to read as follows:

§ 505. The punishment of death must, in every case, be inflicted by causing to pass through the body of the convict a current of electricity of sufficient intensity to cause death, and the application of such current must be continued until such convict is dead.

§ 6. Section five hundred and six of said Code of Criminal Procedure is hereby amended so as to read as follows:

§ 506. The punishment of death must be inflicted within the walls of the State prison designated in the warrant, or within the yard or inclosure adjoining thereto.

§ 7. Section five hundred and seven of said Code of Criminal Procedure is hereby amended so as to read as follows:

§ 507. It is the duty of the Agent and Warden to be present at the execution, and to invite the presence, by at least three days' previous notice, of a justice of the Supreme Court, the district attorney, and the sheriff of the county wherein the conviction was had, together with two physicians and twelve reputable citizens of full age, to be selected by said Agent and Warden. Such Agent and Warden must, at the request of the criminal, permit such ministers of the gospel, priests or clergymen of any religious denomination, not exceeding two, to be present at the execution; and, in addition to the persons designated above, he may also appoint seven assistants or deputy sheriffs who may attend the execution. He shall permit no other person to be present at such execution except those designated in this section. Immediately after the execution a *post mortem* examination of the body of the convict shall be made by the physicians present at the execution, and their report in writing, stating the nature of the examination, so made by them, shall be annexed to the certificate hereinafter mentioned and filed therewith. After such *post mortem* examination the body, unless claimed by some relative or relatives of the person so executed, shall be interred in the graveyard or cemetery attached to the prison, with a sufficient quantity of quick-lime to consume such body without delay; and no religious or other services shall be held over the remains after such execution, except within the walls of the prison where said execution took place, and only in the presence of the officers of said prison, the person conducting said services and the immediate family and relatives of said deceased prisoner. No account of the details of any such execution, beyond the statement of the fact that such convict was on the day in question duly executed according to law at the prison shall be published in any newspaper

Any person who shall violate or omit to comply with any provision of this section shall be guilty of a misdemeanor.

§ 8. Section five hundred and eight of said Code of Criminal Procedure is hereby amended so as to read as follows:

§ 508. The Agent and Warden attending the execution must prepare and sign a certificate setting forth the time and place thereof, and that the convict was then and there executed, in conformity to the sentence of the court and the provisions of this Code, and must procure such certificate to be signed by all the persons present and witnessing the execution. He must cause the certificate, together with the certificate of the *post-mortem* examination mentioned in the preceding section, and annexed thereto, to be filed within ten days after the execution in the office of the Clerk of the county in which the conviction was had.

§ 9. Section five hundred and nine of said Code of Criminal Procedure is hereby amended so as to read as follows:

§ 509. In case of the disability, from illness or other sufficient cause, of the Agent and Warden to whom the death warrant is directed to be present and execute said warrant, it shall be the duty of the principal keeper of said prison, or such officer of said prison as may be designated by the Superintendent of State Prisons, to execute the said warrant and to perform all the other duties by this act imposed upon said Agent and Warden.

§ 10. Nothing contained in any provision of this act applies to a crime committed at any time before the day when this act takes effect. Such crime must be punished according to the provisions of law existing when it is committed, in the same manner as if this act had not been passed; and the provisions of law for the infliction of the penalty of death upon convicted criminals, in existence on the day prior to the passage of this act, are continued in existence and applicable to all crimes punishable by death, which have been or may be committed before the time when this act takes effect. A crime punishable by death committed after the beginning of the day when this act takes effect, must be punished according to the provision of this act and not otherwise.

§ 11. All acts and parts of acts inconsistent with the provisions of this act are hereby repealed.

§ 12. This act shall take effect on the first day of January, one thousand eight hundred and eighty-nine, and shall apply to all convictions for crimes punishable by death committed on or after that date.

STATE OF NEW YORK,
OFFICE OF THE SECRETARY OF STATE, } *ss.*

I have compared the preceding with the original law on file in this office, and do hereby certify that the same is a correct transcript therefrom and of the whole of said original law.

FREDERICK COOK,
Secretary of State

This statute going into effect January 1, 1889, the writer felt it the duty of the body to consider, for the benefit of public officials, "what was the best method of carrying the same into effect," and recommended to the Society the appointment of a committee to consider this subject and report.

A preliminary report was made by this committee, at the November meeting, 1888, which was laid over for discussion to the December meeting, 1888.

That Committee there made a detailed report which was, after discussion, unanimously adopted by the body.

The report is as follows:

Report of the Committee of the Medico-Legal Society on the Best Method of Execution of Criminals by Electricity.

Introductory.—In the six weeks that have elapsed since the preparation of our original report to the Society we have made further valuable experiments, and although our report had not as yet been officially printed, we have received so many useful suggestions and criticisms upon such portions as had been given to the public in the press—both through correspondents and through discussions in various papers and journals—that we are enabled to present at this meeting a fuller and more explicit expression of our opinions. The additional light thrown upon a difficult problem has permitted us to make a few slight alterations in our earlier report, and to subjoin an appendix for the better elucidation of the subject.

The Report.

To the President and Members of the Medico-Legal Society:

Your Committee appointed at the September meeting to consider and advise upon the proper method of executing criminals by electricity, reports as follows:

The law recently passed by the Legislature of the State of New York, providing for the administration of capital punishment by electricity, goes into effect January 1st, 1889. All murderers sentenced to death for crimes committed on or after that date are to die by this means. As the use of electricity is an entirely novel method of putting to death human individuals, the manner of the application of the lethal current requires some thoughtful care and study.

The Commission appointed by the Governor to examine into various methods of causing death, which should be more humane than hanging, decided upon electricity. This Commission caused certain experiments

to be carried out upon dogs, by which it was proven that electricity will produce certain and instantaneous death. In these experiments the animals were placed in a zinc-lined box half filled with water connected with one pole, while the other pole, in the shape of a wire, was wound around the nose or inserted into the mouth. There are no data as to the amount or kind of electricity employed. This method, although successful, is hardly applicable to a human being.

Some experiments were conducted by one of our Committee (Dr. J. Mount Bleyer), and reported in the *Humboldt Scientific Library*, March, 1887; and during the past summer a series of thirty or more careful experiments were made upon dogs with death currents, at the Edison Laboratory, in New Jersey, by Messrs. Harold P. Brown and A. E. Kennelly and the chairman of this Committee (Dr. Frederick Peterson), all of which are of particular value to us in suggesting the proper method of executing criminals by electricity. These last were published in detail in the *Electrical World*, August 8th, 1888, and from them we have ascertained the following points:

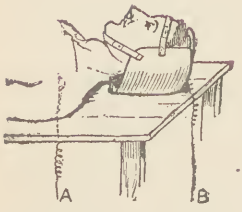
The resistance of these dogs was measured and found to vary from 3,600 to 200,000 ohms, depending upon the differing thicknesses of skin and hair, and the amount of moisture between the skin and the electrodes. The amount of electro-motive force was also accurately determined, and it was found that with the alternating current, as low as 160 volts was sufficient to kill a dog, and that with the continuous current a much higher voltage was necessary for the production of a fatal effect.

There are several points requiring thoughtful consideration in the application of death currents to man which we now proceed to lay before you.

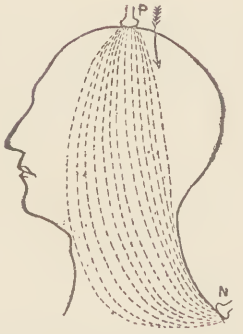
The average resistance of the human body is about 2,500 ohms. The most of this resistance is in the skin. It is evident, therefore, that the larger the surface of the electrode applied to the body the less will be the resistance. But it is also a fact that the density of the current depends upon the superficial area of the electrode. With a pole of small diameter the passing current will be more dense than when an electrode of large sectional area is applied.

We think that immersion of the body in a large quantity of water to act as one pole, or the placing of large metal plates upon any part of the body, should be put entirely out of consideration. It is further well known that, if metal be directly in contact with the skin during the passage of an electric current, burns and lacerations are apt to be produced.

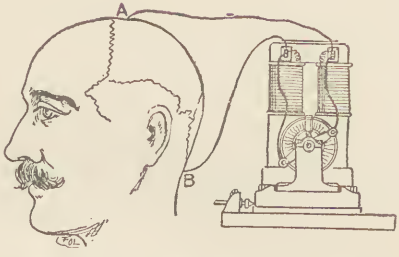
We believe that all means hitherto suggested are open to criticism upon these grounds. The posture of the criminal requires also some discussion at our hands. We think there are serious objections to the employment of any apparatus in which the prisoner takes a standing position. There are so many histories of unseemly struggles and contortions on the part of criminals executed by the old methods, that the necessity of some bodily restraint is evident. Furthermore, the possibility of a tetanic contraction of the body from the shock of the current is to be borne in mind. In our opinion the recumbent or the sitting position is best adapted to our purpose.



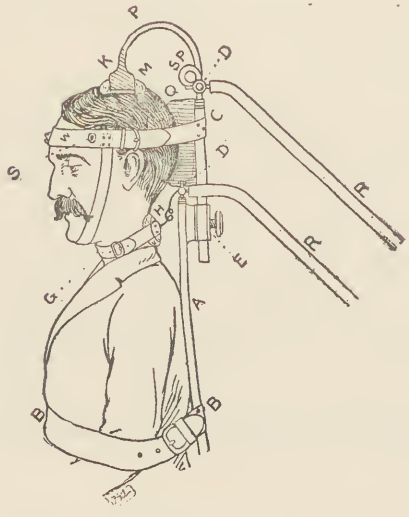
1. THE RECLINING TABLE.



2. THE HELMET AND ACTION OF THE CURRENT.



3. SHOWING THE ACTION THROUGH THE BRAIN.



4. THE APPLICATION OF THE CURRENT THROUGH THE BRAIN.

Another question of importance is to which part of the body the two poles should be applied. There can be no doubt that one electrode should be in contact with the head. The other might be placed upon any portion of the body, upon the trunk or extremities, but there are obvious reasons why the neighborhood of the spinal cord would be more advantageous. The electric current, in passing through the body from one pole to another, undergoes more or less diffusion through the tissues. A current passing from the top of the head to the small of the back will be diffused throughout a great part of the brain, and all of the tissues of the neck. The medulla oblongata—a part of the brain which is the most vital—together with all the nerves of the neck and the spinal cord, which exercise jurisdiction over the lungs and heart, will be thoroughly permeated by the current applied in this way. As the seat of consciousness is in the brain, and particularly in the cortex of the cerebrum, it is clear that this faculty of the mind will suffer at once, if the current be sufficiently strong. The electric stream flows from the positive to the negative pole, and there might be some possible advantage in placing the positive pole on the vertex of the head, nearest the center of consciousness, although death in any case will be instantaneous.

After mature deliberation we recommend that the death current be administered to the criminal in the following manner:

A stout table covered with rubber cloth and having holes along its borders for binding, or a strong chair should be procured. The prisoner lying on his back, or sitting, should be firmly bound on this table, or in the chair. One electrode should be so inserted into the table, or into the back of the chair, that it will impinge upon the spine between the shoulders. The head should be secured by means of a sort of helmet fastened to the table or back of chair, and to this helmet the other pole should be so joined as to press firmly with its end upon the top of the head. We think a chair is preferable to a table. The rheophores can be led off to the dynamo through the floor or to another room, and the instrument for closing the circuit can be attached to the wall.

The electrodes should be of metal, between one and four inches in diameter, covered with a thick layer of sponge or chamois skin.

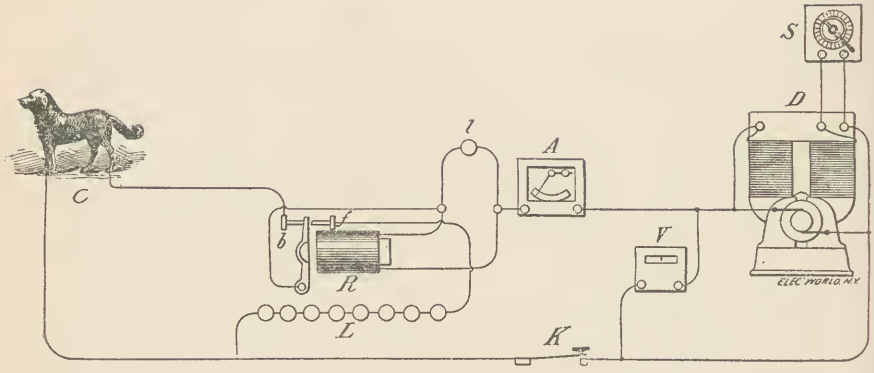
The poles and the skin and hair at the points of contact should be thoroughly wet with a warm aqueous solution of common salt. The hair should be cut short. Provision should be made for preventing any moisture reaching from one electrode to the other.

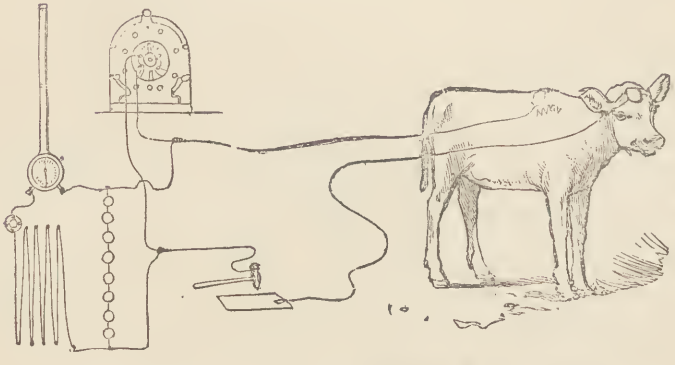
A dynamo capable of generating an electro-motive force of at least 3,000 volts should be employed, and a current used with a potential between 1,000 and 1,500 volts, according to the resistance of the criminal.

The alternating current should be made use of, with alternations not fewer than 300 per second. Such a current allowed to pass for from fifteen to thirty seconds will insure death.

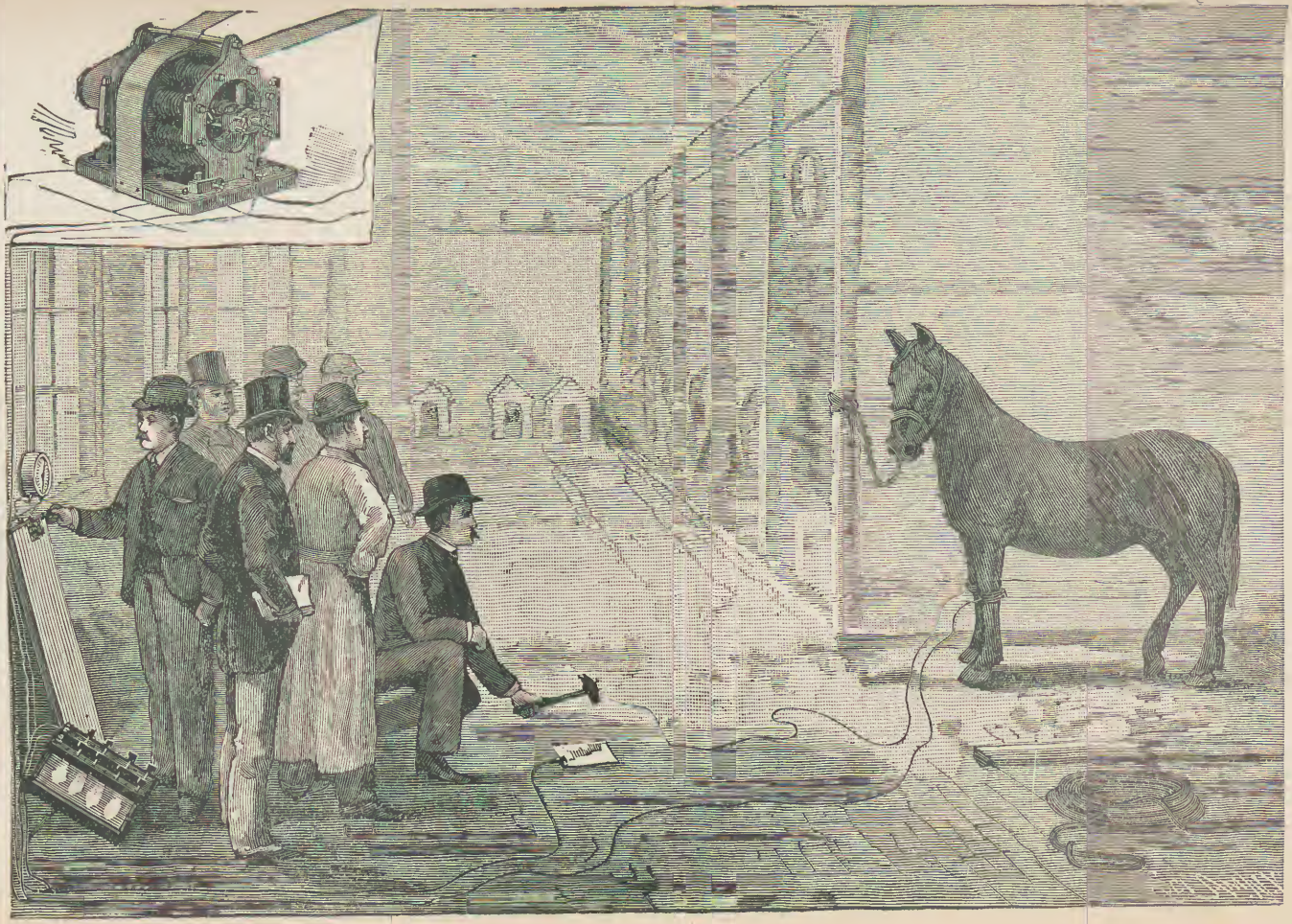
APPENDIX.

We append here the experiments in abbreviated tabular form upon which we have based our conclusions:





METHOD OF CONNECTING DYNAMO AND SUBJECT.



EXPERIMENTS WITH DEATH CURRENTS BY MESSRS. BROWN AND KENNELLY AND DR. PETERSON, AT THE EDISON LABORATORY AND AT COLUMBIA COLLEGE.

	Pounds Weight	Ohms Resistance.	Character of Current.	Voltage	Duration of Contact.	Result.
Dog No. 1	10	7,500	Continuous	800	2 seconds	Death
" " 2	20	8,500	Alternating	800	3 "	Death
" " 3	13½	6,000	Continuous	1,000	instantaneous	Death
" " 4	46½	11,000	Alternating	800	2½ seconds	Death
" " 5	50	6,000	Continuous	1,000, 1,100, 1,200, 1,300, 1,400, 1,420 and 1,200	6 instantaneous shocks, the last 2½ seconds	Unhurt
" " 6	55	3,600	Alternating	570	3 seconds	Death
" " 7	41½	14,000	Alternating	250	5 "	Death
" " 8	56	27,500	Alternating	160	5 "	Death
" " 9	59	5,000	Alternating	260	5 "	Death
" " 10	76	15,000	Alternating	330	3 "	Death
" " 11	61	14,000	Alternating	272	5 "	Death
" " 12	91	8,000	Alternating	340	5 "	Death
" " 13	53	30,000	Alternating	220	30 "	Death

EXPERIMENTS CONDUCTED BY MR. A. E. KENNELLY, AT THE EDISON LABORATORY.

	Pounds Weight.	Ohms Resistance.	Character of Current.	Voltage.	Duration of Contact.	Result.
Dog No. 14	21½		Alternating	205	3 seconds	Death
" " 15	19½		Alternating	176	15 "	Death
" " 16	39½		Alternating	178	15 "	Death
" " 17	57½		Continuous	400	40 "	Death
" " 18	18½		Alternating	140	45 "	Death
" " 19	20	8,000	Alternating	255	35 "	Death
" " 20	16½	4,200	Alternating	418	2 "	Death
" " 21	37½	200,000	Continuous	304	30 "	Unhurt
			Alternating	100	65 "	
" " 22	12½	4,000	Alternating	500	30 "	Death
" " 23	33	11,000	Alternating	536	1½ "	Death
" " 24	10	9,700	Alternating	517	1 "	Death

Objections having been made to the dogs on account of the small weight of the animals, the following larger animals were experimented upon by Mr. Harold P. Brown before your Committee:

EXPERIMENTS CONDUCTED BEFORE THE COMMITTEE OF THE MEDICO-LEGAL SOCIETY, AT THE EDISON LABORATORY, DEC. 5TH, 1888.
BY HAROLD P. BROWN.

	Pounds Weight.	Ohms Resistance.	Character of Current.	Voltage.	Duration of Contact.	Result.
Horse	1,230	11,000	Alternating	700	25 seconds	Death
Calf	124½	3,200	Alternating	770	8 "	Death
Calf	145	1,300	Alternating	750	5 "	Death

In most of the dogs the poles were bare copper wire around wet cotton waste wound about a fore and opposite hind leg. Poles the same in a horse, but applied to both forelegs. In the calves sponge-covered metal electrodes were applied, one to middle of forehead, and one near the spine between the shoulders.

Death with the alternating current was without a struggle; with the continuous, painful and accompanied by howling and struggling.

In the earlier experiments where the alternations were from 660 to 4,100 per minute, the voltage was higher. In most of the experiments the alternations were made from 12,000 to 17,280 per minute, and the number of volts electro-motive force required was decreased.

It was suggested to us that the current should be applied through wristlet electrodes. Acting upon this idea we caused the poles to be applied to the forelegs of the horse, but were disappointed in the result.

This method seemed not nearly as effective as our own suggestion of application to the head and back, as was illustrated in the speedy and easy death of the two calves.

Mr. Elbridge T. Gerry, Chairman of the Commission appointed by the Governor, whom we invited to accompany us and witness the latest experiments, has suggested that clock-work be employed to make and break the circuit when criminals are executed in this manner, and we think this a matter worthy of the attention of those who are to carry out the requirements of the law. His request that we specify more particularly the kind of apparatus needed, has led us to make inquiry in this direction. Relative to this matter, Mr. Harrold P. Brown, who, by his numerous physiological experiments with death currents and his high attainments in this department of science, is pre-eminently qualified to speak with authority upon this subject, recommends as follows:

"I think a portable steam-engine of three-horse power with a dynamo-electric generator of the alternating type, self-exciting or with a small exciter, would be preferable. I approve fully the recommendations of your committee in regard to the electro-motive force and other details. In my opinion $5,000 would cover the cost of this apparatus."

If any doubt should exist in the minds of some that electricity would not necessarily be fatal to man because it has been successfully applied to lower animals, we have but to call attention to the fact that since 1883 some 200 persons have been killed, as we are credibly informed, by the handling of electric lighting wires.

As most of these people were killed probably by contact of the hands with the wires, it shows that in man at least death is rapid in this manner. Hence the suggestions made to this Committee as to the use of wristlet electrodes have their value, and it is possible that this method, with the prisoner fastened in a chair, may ultimately prove the most desirable, as doing away with a complication of appliances and lending greater simplicity to the procedure.

FREDERICK PETERSON, Chairman.
R. OGDEN DOREMUS,
FRANK H. INGRAM,
J. MOUNT BLEYER.

Hon. Elbridge T. Gerry, who was named as a member of this Committee, preferred, on account of his relation to the Legislative Commission, not to act upon this committee, and his name is therefore not attached to this report.

Mr. Henry Guy Carleton, a member of the body who has given the subject great attention, read a carefully prepared paper at the December meeting on the same subject, which was considered at the same session at which the report of the Committee was approved.

The law, by its terms, goes into effect January 1, 1889, and should be given a fair trial before popular opinion should be excited against it or any general reopening of the discussion as to its wisdom.

It will be the first attempt made to use the electric current as a means of producing death or as a human punishment.

The Committee of the Medico-Legal Society were authorized and requested to consult electricians; and their report as to the selection of the appropriate current to be used is based as well on actual experiments as on the highest electrical authority.

Mr. Thomas A. Edison, than whom none can be regarded as a higher authority, has said upon this subject:

The best appliance in this connection is to my mind the one which

will perform its work in the shortest space of time and inflict the least amount of suffering upon its victim.

This I believe can be accomplished by the use of electricity, and the most suitable apparatus for the purpose is that class of dynamo machinery which employs intermittent currents.

The most powerful of these are known as "alternating" machines.

The passage of the current from these machines through the human body, even by the slightest contact, produces instantaneous death.

The plan suggested by the Committee is one which leaves no room for intelligent doubt or criticism, that if followed by the warden of the State prison or other officials, the law, in its spirit and intent, will be perfectly and successfully carried into effect.

ALCOHOLIC TRANCE IN CRIMINAL CASES.

By T. D. Crothers, M.D., Hartford, Conn.
Superintendent Walnut Lodge.

The frequent statement of prisoners in court that they did not remember anything about the crime they are accused of, appears from scientific study to be a psychological fact. How far this is true in all cases has not been determined, but there can be no question that crime is often committed without a conscious knowledge or memory of the act at the time.

It is well known to students of mental science, that in certain unknown brain states memory is palsied, and fails to note the events of life and surroundings. Like the somnambulist, the person may seem to realize his surroundings and be conscious of his acts, and later be unable to recall anything which has happened. These blanks of memory occur in many disordered states of the brain and body, but are usually of such short duration as not to attract attention. Sometimes events that occur in this state may be recalled afterwards, but usually they are total blanks. The most marked blanks of memory have been noted in cases of epilepsy and inebriety. When they occur in the latter they are called *Alcoholic Trances*, and are always associated with excessive use of spirits. Such cases are noted in persons who use spirits continuously, and who go about acting and talking sanely although giving some evidence of brain failure, yet seem to realize their condition and surroundings. Some time after, they wake up and deny all recollection of acts or events for a certain period in the past. This period to them begins at a certain point and ends hours or days

after, the interval of which is a total blank, like that of unconscious sleep. Memory and certain brain functions are suspended at this time, while the other brain activities go on as usual.

In all probability the continued paralysis from alcohol not only lowers the nutrition and functional activities of the brain, but produces a local palsy, followed by a temporary failure of consciousness and memory, which after a time passes away.

When a criminal claims to have had no memory or reccollection of the crime for which he is accused, if his statement is true, one of two conditions is probably present, either epilepsy or alcoholism. Such a trance state might exist and the person be free from epilepsy and alcoholism, but from our present knowledge of this condition it would be difficult to determine this fact. If epilepsy can be traced in the history of the case, the trance state has a pathological basis for its presence. If the prisoner is an inebriate, the same favoring conditions are present. If the prisoner has been insane, and suffered from sun or heat stroke, and the use of spirits are the symptoms of brain degeneration, the trance state may occur any time.

The fact of the actual existence of the trance state is a matter for study, to be determined from a history of the person and his conduct; a grouping of evidence that the person can not simulate or falsify; evidence that turns not on any one fact, but on an assemblage of facts that point to the same conclusion.

The following cases are given to illustrate some of these facts, which support the assertion of no memory of the act by the prisoner in court:

The first case is that of A, who was repeatedly arrested for horse stealing, and always claimed to be unconscious of the act. This defense was regarded with ridicule by the

court and jury, and more severe sentences were imposed, until, finally, he died in prison. The evidence offered in different trials in defense was, that his father was weak-minded and died of consumption, and his mother was insane for many years, and died in an asylum. His early life was one of hardship, irregular living, and no training. At sixteen he entered the army, and suffered from exposure, disease, and sunstroke, and began to drink spirits to excess at this time. At twenty he was employed as a hack driver, and ten years later became owner of a livery stable. He drank to excess at intervals, yet during this time attended to business, acting sanely, and apparently conscious of all his acts, but often complained he could not recollect what he had done while drinking. When about thirty-four years of age he would, while drinking, drive strange horses to his stable, and claim that he had bought them. The next day he had no recollection of these events, and made efforts to find the owners of these horses and return them. It appeared that while under the influence of spirits the sight of a good horse hitched up by the roadside alone, created an intense desire to possess and drive it. If driving his own horse, he would stop and place it in a stable, then go and take the new horse, and after a short drive put it up in his own stable, then go and get his own horse. The next day all this would be a blank, which he could never recall. On several occasions he displayed reasoning cunning, in not taking a horse when the owners or drivers were in sight. This desire to possess the horse seemed under control, but when no one was in sight all caution left him, and he displayed great boldness in driving about in the most public way. If the owner should appear and demand his property he would give it up in a confused, abstract way. No scolding or severe language made any impression on him. Often if the horse seemed weary he would place it in the nearest stable, with strict

orders to give it special care. On one occasion he joined in a search of a stolen horse, and found it in stable where he had placed it many days before. Of this he had no recollection. In another instance he sold a horse which he had taken, but did not take any money, making a condition that the buyer should return the horse if he did not like it. His horse stealing was all of this general character. No motive was apparent, or effort at concealment, and on recovering from his alcoholic excess, he made every effort to restore the property, expressing great regrets, and paying freely for all losses. The facts of these events fully sustained his assertion of unconsciousness, yet his apparent sanity was made the standard of his mental condition. The facts of his heredity, drinking, crime, and conduct, all sustained his assertion of unconsciousness of these events. This was an alcoholic trance state, with kleptomaniac impulses.

The next case, that of B., was executed for the murder of his wife. He asserted positively that he had no memory or consciousness of the act, or any event before or after. The evidence indicated that he was an inebriate of ten years duration, dating from a sunstroke. He drank periodically, for a week or ten days at a time, and during this period was intensely excitable and active. He seemed always sane and conscious of his acts and surroundings, although intensely suspicious, exacting, and very irritable to all his associates. When sober he was kind, generous, and confiding, and never angry or irritable. He denied all memory of his acts during this period. While his temper, emotions, and conduct were greatly changed during this time, his intellect seemed more acute and sensitive to all his acts and surroundings. His business was conducted with usual skill, but he seemed unable to carry out any oral promises, claiming he could not recollect them. His business associates always put all bar-

gains and agreements in writing when he was drinking, for the reason he denied them when sober. But when not drinking his word and promise was always literally carried out. He broke up the furniture of his parlor when in this state, and injured a trusted friend, and in many ways showed violence from no cause or reason, and afterwards claimed no memory of it. After these attacks were over, he expressed great alarm and sought in every way to repair the injury. Finally he struck his wife with a chair and killed her, and awoke the next day in jail, and manifested the most profound sorrow. While he disclaimed all knowledge of the crime, he was anxious to die and welcomed his execution. This case was a periodical inebriate with maniacal and homicidal tendencies. His changed conduct, and unreasoning, motiveless acts, pointed to a condition of trance. His assertion of no memory was sustained by his conduct after, and efforts to find out what he had done and repair the injury.

The third case, that of C., was a man of wealth and character who forged a large note, drew the money and went to a distant city on a visit. He was tried and sentenced to state prison. The defense was no memory or consciousness of the act by reason of excessive use of alcohol. This was treated with ridicule. Although he had drank to excess at the time of and before the crime, he seemed rational and acted in no way as if he did not understand what he was doing. Both his parents were neurotics, and he began to drink in early life, and for years was a moderate drinker. He was a successful manufacturer, and only drank to excess at times for the past five years. He complained of no memory during these drink paroxysms, and questioned business transactions and bargains he made at this time. On one occasion he went to New York and made foolish purchases which he could not recall. On several occasions he discharged valuable workmen, and when he became sober took

them back, unable to account for such acts. These and other very strange acts continued to increase with every drink excess. At such times he was reticent and seemed to be sensible and conscious, and did these strange acts in a sudden, impulsive way. The forged note was offered boldly, and no effort was made to conceal his presence or destination. When arrested he was alarmed and could not believe that he had done so foolish an act. This was a clear case of alcoholic trance, in which all the facts sustained his assertion of no conscious memory of the crime. In these three cases the correctness of the prisoner's assertions of no memory was verified by all the facts and circumstances of the crime. The mere statement of a person accused of crime, that he had no memory of the act, should lead to a careful examination and be only accepted as a fact when it is supported by other evidence.

The following case illustrates the difficulty of supporting a prisoner's statement of no memory when it is used for purposes of deception:

Case E. An inebriate killed a man in a fight, and was sentenced to prison for life. He claimed no memory or recollection of the act. I found that when drinking he seemed conscious of all his surroundings, and was always anxious to conceal his real condition, and if anything had happened while in this state he was very active to repair and hush it up. He was at times quite delirious when under the influence of spirits, but would stop at once if any one came along that he respected. He would, after acting wildly, seem to grow sober at once, and do everything to restore the disorder he had created. The crime was an accident, and at once he attempted concealment, ran away, changed his clothing, and tried to disguise his identity; when arrested, claimed no memory or consciousness of the act. This claim was clearly not true, and contradicted by the facts.

In a recent case F. shot his partner in business while both were intoxicated, and displayed great cunning to conceal the crime and person; then, after elaborate preparations, went away. He made the same claim of defense, which was unsupported by any other evidence or facts in his previous life. He was executed. Of course it is possible for the trance state to come on suddenly, and crime be committed at this time; still, so far, all the cases studied show that this condition existed before, and was the product of a growth beginning in brief blanks of a few moments and extending to hours and days duration. Unless the facts indicated the trance state before the crime was committed, it would be difficult to establish this condition for the first time, followed and associated with the crime.

I think in most of these cases, where this defense is set up, there will be found certain groups of cases that have common physical conditions of degeneration. These groups of cases I have divided from a clinical standpoint, the value of which will be more as an outline for future studies.

Probably the largest number of criminal inebriates who claim loss of memory as a defense for their acts are the alcoholic dements. This class are the chronic inebriates of long duration; persons who have naturally physical and mental defects, and who have used spirits to excess for years. This, with bad training in early life, bad surroundings, and bad nutrition, have made them of necessity unsound, and liable to have many and complex brain defects. Such persons are always more or less without consciousness or realization of their acts. They act automatically only, governed by the lowest and most transient impulses. Crimes of all kinds are generally accidents growing out of the surroundings, without premeditation or plan. They are incapable of sane reasoning or appreciation of the results of their conduct. The crime is unreasoning, and general indifference marks all their

acts afterwards. The crime is always along lines of previous conduct, and never strange or unusual. The claim of no memory in such cases has always a reasonable basis of truth in the physical conditions of the person. Mania is very rarely present, but delusions and morbid impulses of a melancholic type always exist. The mind, like the body, is exhausted, depressed, and acts along lines of least resistance.

The second group of criminals who claim no memory are those where the crime is unusual, extraordinary, and unforeseen. Persons who are inebriates suddenly commit murder, steal, or do some criminal act that is foreign to all previous conduct. In such cases the trance condition may have been present for some time before and escaped any special notice, except the mere statement of the person that he could not recollect his acts. The unusual nature of the crime, committed by persons who never before by act or thought gave any indication of it, is always a factor sustaining the claim of no memory. The explosive, unreasoning character of crime always points to mental unsoundness and incapacity of control.

A third group of criminals urge this statement of no memory, who, unlike the first group, are not imbeciles, generally. They are positive inebriates, drinking to excess, but not to stupor, who suddenly commit crime with the most idiotic coolness and indifference, never manifesting the slightest appreciation of the act as wrong, or likely to be followed by punishment. Crime committed by this class is never concealed, and the criminal's after conduct and appearance gives no intimation that he is aware of what he has done. These cases have been termed moral paralytics, and the claim of the trance state may be very likely true.

A fourth group of cases where memory is claimed to be absent occurs in dipsomaniacs and periodical inebriates, who have distinct free intervals of sobriety. This class begin to

drink to great excess at once, then drink less for a day or more, and begin as violently as ever again. In this short interval of moderate drinking some crime is committed which they claim not to have any recollection.

Other cases have been noted where a condition of mental irritation or depression preceded the drink explosion, and the crime was committed during this premonitory period and before they drank to excess. The strong probability of trance at this period is sustained by the epileptic character of such conduct afterwards. The trance state may be justly termed a species of *aura*, or brain paralysis, which precedes the explosion.

In some instances, before the drink storm comes on, the person's mind would be filled with the most intense suspicions, fears, delusions, and exhibit a degree of irritation and perturbation unusual and unaccountable. Intense excitement for depression, from no apparent cause, prevails, and during this period some crime may be committed; then comes the drink paroxysm, and later all the past is a blank. Trance is very likely to be present at this time.

In these groups the crime is generally automatic, or committed in a manner different from other similar crimes. Some governing center has suspended, and all sorts of impulses may merge into acts any moment. The consciousness of acts and their consequences are broken up. The strong probability is that these trance blanks begin in short periods of unconsciousness, which lengthen with the degeneration and mental feebleness of the person. The obscurity of these conditions, and the incapacity of the victims to realize their import, also the absence of any special study, greatly increases the difficulty. It will be evident from inquiry that trance states among inebriates are common, but seldom attract attention, unless they come into legal notice. The practical question to be determined in a given case

in court is the actual mental condition of the prisoner, who claims to have no recollection of the crime. This is a class of evidence that must be determined by circumstantial and collateral facts, which require scientific expertness to gather and group. The court can decide from the general facts of the crime and the prisoner whether his claim of no memory may possibly be true, and order an expert examination to ascertain the facts. This should be done in all cases where the prisoner is without means, in the same way that a lunacy commission is appointed to decide upon the insanity. The result of this expert study may show a large preponderance of evidence sustaining the claim of no memory, or the opposite. If the former, the measure of the responsibility must be modified, and the degree of punishment changed. While such cases are practically insane at the time, and incapable of realizing or controlling their acts, they should be kept under legal and medical surveillance for a lifetime, if necessary. Such men are dangerous, and should be carefully watched and deprived of their liberty for a length of time depending on recovery and capacity to act rationally and normally. They are dangerous diseased men, and, like victims of contagious disease, must be housed and treated.

The future of such cases depends on the removal of the causes which made them what they are. The possibility of permanent restoration is very promising in most cases. How far alcoholic trance exists in criminal cases is unknown, but the time has come when such a claim by criminals cannot be ignored, and must be the subject of serious inquiry. Such a claim cannot be treated as a mere subterfuge to avoid punishment, but should receive the same attention that a claim of insanity or self-defense would. This is only an outline view of a very wide and most practical field of medico-legal research, largely unknown, which can be seen in every court room of the land. These cases appeal to us for help and

recognition, and the highest dictates of humanity and justice demand of us an accurate study and comprehension of their nature and character.

The following summary of the leading facts in this trance condition will be a standpoint for other and more minute investigations:

1st. The trance state in inebriety is a distinct brain condition, that exists beyond all question or doubt.

2d. This brain state is one in which all memory and consciousness of acts or words are suspended, the person going about automatically, giving little or no evidence of his real condition.

3d. The higher brain centers controlling consciousness are suspended, as in the somnambulistic or hypnotic state. The duration of this state may be from a few moments to several days, and the person at this time may appear conscious and act naturally, and along the line of his ordinary life.

4. During this trance period crime against person or property may be committed without any motive or apparent plan, usually unforeseen and unexpected. When accurately studied such a crime will lack in the details and methods of execution, and also show want of consciousness of the nature and results of such acts.

5th. When this condition passes away the acts and conduct of the person show that he did not remember what he had done before. Hence his denial of all recollection of past events, and his changed manner confirm or deny his statements.

6th. When such cases come under judicial inquiry the statement of the prisoner requires a scientific study before it can be accepted as a probable fact. It cannot be simulated, but is susceptible of proof beyond the comprehension of the prisoner.

7th. In such a state crime and criminal impulses are the result of unknown and unforeseen influences, and the person in this condition is dangerous and an irresponsible madman.

8th. This condition should be fully recognized by court and jury, and the measure of responsibility and punishment suited to each case. They should not be punished as criminals, nor should they be liberated as sane men. They should be housed and confined in hospitals.

LIVE BIRTH, IN ITS MEDICO-LEGAL RELATIONS.

By John J. Reese, M. D.
Professor of Medical Jurisprudence and Toxicology in the University of Pennsylvania.

The subject of Live Birth is one of very considerable medico-legal importance when regarded in its two-fold connection with criminal and civil jurisprudence. In the former connection it has to deal with the often intricate subject of Infanticide, or child murder; and in the latter, it bears upon the no less difficult subject of Inheritance.

I propose to discuss it under this two-fold division, restricting myself, however, to its medico-legal bearings.

I. Its *criminal* relations. The crime of Infanticide, as is well known, has ever been fearfully prevalent even among the so-called civilized nations of the earth; and in our own day, surrounded with all the ameliorating influences of modern refinement, its prevalence is scarcely less restricted, although no longer legalized, as in the palmy days of Greece and Rome; but it is now almost exclusively confined to the destruction of illegitimate children.

By Infanticide is understood "the destruction of the life of the new-born child." Although this destruction is usually accomplished during the birth of the infant, or immediately after, the criminal act is not necessarily restricted as to the exact *time* of its commission: it may be postponed for some days after birth, and yet be brought within the meaning of the statute.

Child murder is not regarded by the law as a specific

crime, but is treated as any other case of homicide, and is tried by the usual laws of evidence in cases of murder; with one important exception, however, namely, that the prosecution is bound to produce satisfactory evidence that a *living child was born, in the legal sense.* As will be seen, this is a most important proviso. Unless a *live birth* can be fully established, the case falls to the ground, and must be abandoned. The reason for this requirement on the part of the law becomes at once apparent when we remember how very many children are born into the world actually dead; and how many more are still-born, or *apparently* dead; and, moreover, others come into existence so feeble, as to die very shortly after their birth from various causes; and in the latter cases, the signs of their having lived are often very indistinct and uncertain. Therefore it is that, under this *uncertainty* of the live birth, the law humanely assumes that the child in question was born dead; and therefore it throws the burden of proving a live birth upon the prosecution. But what is implied by a *live birth*, in a *legal* sense? According to English and American law, by a *live birth* is meant the "complete extrusion of a living child from the mother." The infant must not only be alive at the time, but every part of its body must be born into the world. So that if the head and shoulders and part of its body be born, and the infant should show unmistakable signs of life by crying out, and if then it were from some cause—either natural or criminal—to die before the rest of the body is expelled, that child would not, *legally*, have been *born alive*: so exact is the dictum of the law on this point.

With this understanding of the rigid construction of the law upon this subject, we are prepared at once to encounter the medico-legal difficulties which meet us in

every case of Infanticide; and the very first of these difficulties is to *prove* the live birth of the child. As the case is usually presented to the legal physician, it is that of the dead body of a new-born infant, discovered in some out of the way place, as in a commons, on a dung heap, in a privy, cess-pool, well or river. The body may be fresh, or more or less decomposed. The first question to settle is—was this child born alive? A careful inspection of the organs of respiration, will usually, (unless the putrefaction of the body is too far advanced), enable the examiner to decide whether the child has ever *breathed* or not. But just what this discovery has to do with the question of its *live birth*, we shall discuss directly. What I now desire especially to notice is the practical medico-legal impediments that we have to encounter in the settlement of these important cases, and these difficulties will account for the extreme infrequency of conviction of the mother in the numerous cases of Infanticide that are tried in our courts. In the first place, the woman has, nearly always, been delivered in secret: there were no witnesses to testify to a child having been born—whether alive or dead. And moreover, the body of the infant is frequently concealed or distroyed. In the latter case (where the body of the child cannot be produced), the only other evidence would be the proofs of the recent delivery of the reputed mother, but as these proofs could only be obtained by a medical examination of the woman, and as the court cannot compel a woman to submit to this examination *against her will*--inasmuch as our laws never force the accused to criminate himself or herself--it follows, almost necessarily, that there must be a total failure of legal proof of the alleged crime.

Another obstacle in the way of conviction, I may here

briefly allude to, although it is not of a medico-legal nature--namely, the reluctance of most juries to convict a woman under these circumstances, arising from a sympathy with the unhappy mother, who, however guilty of the unnatural crime of murdering her own offspring, has, they feel, been probably the victim of the foul seducer, who may have betrayed her under a promise of marriage, and afterwards has deserted her to her fate and ruin. It is only natural, under such impending evils, that the woman (unless upheld by higher principles which are, however, not very likely to be present), should adopt every possible method of concealment, both of her pregnancy, and of her subsequent delivery, and even, sad to say, determine upon the destruction and concealment of her new-born offspring. Again, I ask, how will it be possible to convict the prisoner, where the child's body cannot be produced and identified? Under our laws, and those of England, the difficulties are simply insurmountable. Under the Scotch law, which makes the *concealment of pregnancy* a misdemeanor in a woman who has given birth to a child, which child has been destroyed, or is *amissing*, the prisoner might be convicted of Infanticide under such circumstances, even though the body of the child is not produced, and even with the *possibility* that the child might have been stolen from the mother at the time of its birth, and might even be actually *alive* at the very time of the trial! The mere fact of the concealment of her pregnancy by the mother, and her failure to have made any provision for her expected offspring, are held by the Scotch law as presumptive evidence of the woman's *intention* to destroy her child.

Many of my hearers will recall the beautiful story by Sir W. Scott in the "Heart of Midlothian," which is

founded on just such a case of alleged infanticide, and where the innocence of the mother, who was condemned to death, but subsequently pardoned, was fully proven.

But let us now recur to the case where the body of the child has been discovered, and is submitted to examination by the medico-legal expert. You will observe that he must draw his inferences as to a live birth solely from inspecting the body of the infant. This inspection comprises both an *external* and an *internal* examination. If the body is fresh, and the child has been born alive and has breathed, it will present the following appearances: The *hair* will be dry and clean; the *ears* will be separated from the sides of the head; the *eyes* remain half open, in spite of all efforts made to close them; the *caput succedaneum* is larger and more distinct than in a dead-born child. There are usually the remains of the sebacious matter behind the ears, and under the armpits. The *thorax* is more arched and prominent than in a dead-born infant; and if the child had lived for a day or two, the remains of the umbilical cord would show unequivocal signs of desiccation and preparation to separate at the navel. These are the important *external* signs of a live birth in a perfectly fresh body; but, of course, these external features will be much modified, or even altogether absent, if a long interval has elapsed since the death of the child, and when the body has undergone putrefaction.

But in a *judicial* examination of a case of Infanticide the proofs of the previous life of the child are sought for in the internal, rather than in the external, organs of the body, and more especially in the *lungs* —these organs indicating by their general appearance, their color, size, crepitous condition, and their behavior to certain tests, the fact of the previous respiration, or

non-respiration, of the infant. This is generally regarded as the one all-important fact to be ascertained, inasmuch as the establishment of this point is considered as proof of the *further* fact of a live birth.

But just here there comes up the very important medico-legal question—what is the actual relation between the post-mortem proof of the previous respiration in an infant and the evidence of its having been "born alive," in the legal sense? Does the fact of proving that the child had breathed before its death incontestably prove that this child was born alive? And further, does the fact of proving that the child had *not* breathed at the time of its birth necessarily show that the infant was *not* born alive? In other words, is respiration to be regarded as the *only* evidence of a live birth in a case of Infanticide? Or can the latter be established outside of respiration? Let us look at these questions more closely.

It is well known that many children come into the world apparently dead—technically termed *still-born* They neither breathe nor cry, nor make any voluntary movements of their limbs; they have a bluish or livid appearance, and exhibit not a single sign of life. Yet many of these children are not really dead, but by appropriate and persistent treatment they are actually resuscitated, and they continue to live; consequently, they were *not* dead in reality, although they offered no evidence whatever of breathing; and had they not been resuscitated by the careful manipulation to which they were subjected, their lungs, on a subsequent examination, would have yielded no signs whatever on which, we could base a proof, or even a suspicion, of a previous *live birth.* And yet, for all this, we do know (from what I have just said) that they were actually and legally "born alive," although they never exhibited any

overt proof of life! This must certainly be the logical conclusion, reasoning from the above facts.

This leads to the further conclusion that respiration is *not* the *only* proof of a live birth; but, as we shall see in civil cases, the law recognizes other proofs as equally valid.

Nevertheless, in criminal cases—and I confine my remarks now to Infanticide,—as they usually become the subjects of judicial investigation, the only proofs of a previous live-birth must be derived exclusively from inspecting the body of the child; and consequently, the fact of *respiration* must constitute the one, main evidence to be established by the examiner. If he can be thoroughly satisfied that the child has *breathed*, he may, in the great majority of cases, logically infer, that it was "born alive," in the legal sense. This inference, however, we must insist, can never be *absolute*. The conclusion arrived at can only be a general one, since it is always possible that an infant may breathe, and even cry, so as to inflate its lungs more or less completely, before it is *entirely* born into the world (in the legal sense), and it is equally *possible* that that its life might be destroyed either accidentally or by design, before its legal birth is entirely completed. Hence you will observe, that, as the law now stands in this country and England, it would not be Infanticide—because it would not come within the statute—to destroy a living child before it was *completely* extruded from its mother,—for example, to strangle it by pressing upon its windpipe, as soon as the head was born into the world. There can be no doubt of the correctness of the remark of an eminent English authority on this subject—that "the law which requires that a child should be entirely separate from the mother before being considered *born*,

is a direct encouragement to child murder; and he cites the case *Rex* vs. *Poulton* (Chitty's Medical Jurisprudence), where the medical evidence showed that the child had breathed; but as the medical witnesses, very properly, would not swear that it was *wholly* born alive, the judge held their evidence to be insufficient to commit the prisoner. And in the case of *Rex* vs. *Simpson*, tried at Winchester in 1835, Baron Gurney stopped the case as soon as the medical witness stated that the lungs might have been inflated *during the progress of the birth.*

I think that we will all agree that the law on this subject, as it now stands, certainly needs remodelling; for, under its present ruling, we must admit that, in such a complication, the subsequent proof of respiration could not be unanswerable evidence of a *legal live-birth*: it would simply show that the child had breathed *about the time* of its birth. But as I stated a few moments ago, *practically*, and in the majority of cases, the proof of respiration in the infant is usually regarded as tantamount to a proof of its live-birth.

My own belief, however, upon this point is that, under our present law, it would be impossible to convict the accused of Infanticide, if the proofs of the live-birth were derived exclusively from the examination of the lungs of the dead infant. A skillful advocate might easily argue to the jury the utter insufficiency of the alleged evidence of a *live-birth*, as this is defined by the law. He most certainly, would be able, at least, to create such a doubt in their minds, as would end in the acquittal of the prisoner.

I need not take up the time of this learned body further than merely to allude to the *method* adopted by the medico-legal expert for ascertaining the fact of

respiration, from an examination of the dead body of the child.

It consists, in brief, in opening the thorax, and first inspecting the lungs. If the child has fully breathed, these organs should entirely fill up the cavity of the chest, so as nearly to cover and conceal the heart. They should exhibit a peculiar marbled appearance—light red speckled with blue; they should feel crepitous when pressed between the fingers; when cut into and squeezed they should exude a bloody froth; and a piece squeezed under water should give rise to air bubbles. When the lungs are removed from the thorax, and placed in a vessel of pure water at the temperature of 60 F., they should float completely on its surface: the degree of their buoyancy depending upon the completeness of the previous act of respiration. This experiment constitutes, in brief, the well known *hydrostatic test* in cases of Infanticide; and it is the one which is so generally relied upon as affording the required proof of a live-birth, but the precise value of which, I trust, we now thoroughly understand, to be merely highly *suggestive*,—affording very strong *presumptive* evidence, but by no means what is *absolute* or *irrefragable* proof.

I need here only refer to some other collateral evidences of respiration derived from an inspection of the organs of circulation, such as the closed condition of the foramen ovale, the ductus arteriosus and the ductus venosus, because the proofs derived from these sources are altogether uncertain and unreliable. Nor need I do more than simply to allude to the fact, that the discovery of milk, or food of any kind in the stomach of the child, would not only be very positive evidence of a legal live birth, but would also prove that the child had survived its birth, probably for one or more days.

II. What I have now said may, I think, be regarded as the more important considerations connected with Live Birth in its *criminal* relations. Let us, in the second place, consider its relations to *civil* cases. I think we shall find these to be quite as important and interesting as the former. Under this head, I design to treat of Live Birth more particularly in its relation to *inheritance*, and the *presumption of survivorship*.

It is well understood that a *living* child at its birth may legally transmit an inheritance from its mother to another heir, no matter how brief may be the period of its existence. Provided it can be proven that it was *born alive* in the legal sense, it makes no difference, in the eye of the law whether it *continued* to live ten years, or ten seconds. Everything here depends upon the establishment of the proofs of a live birth by means of credible witnesses who were present at the birth.

We perceive at the very threshold of the enquiry, that the nature of the proofs required, and the mode of obtaining them, are altogether different from those we have considered under the former head of Infanticide. The question here is—what constitutes the proof of a live birth in a civil case? I answer, anything that will show that the child was living when it was fully born. You will observe that the question does not regard the *uterine* age of the child; it may have attained its full, normal uterine age of nine months, or it may have been prematurely born; that constitutes no difference in the eye of the law, provided only it was born *living*. Observe again, that the question of the *viability* of the child, or its capacity to continue its living after its birth, does not at all enter into the account. It may be an immature fœtus, lacking many months of its full development in

the maternal womb, yet, if it be "born alive," and continue its existence but for a few moments, it acquired its legal rights and qualifications just as truly as if it had been born at full term, and in the complete endowment of strength and vigor.

Let us now consider what proofs the law requires on the part of the witnesses of this alleged live birth. Of course, breathing and crying, together with vigorous movements of the limbs would be universally regarded as satisfactory and conclusive evidences of a live birth. But the laws of different countries singularly vary in their requirements of these proofs. Thus, in France, *respiration* is considered as essential proof; in Scotland, *crying* is so considered; in Germany, *crying* "attested by unimpeachable witnesses." In the United States and England, the law is far less restricted on this point. In neither of these last-named countries is breathing or crying regarded as essential to establish a live birth, and in this they are certainly in the right, judged by fair, physiological tests; since, as we have already seen, many children come into the world in what is technically termed a "still born" condition, or a state of *apparent* death—neither breathing nor crying,—but from which condition they are subsequently recovered, and continue afterwards to live. Hence, I think, we should deem the laws of our own country and of England on this topic, to be both wise and discriminating. These laws admit as good and sufficient proofs of a live birth, the pulsation of the child's heart, or of one of its arteries, or the pulsation of the umbilical cord after the full expulsion from the mother; also the spontaneous movement of one of its limbs, or of its lips or tongue. Now, these latter motions may appear to us to be very trivial, and not very reliable, as they might easily be referred

to other causes than *spontaneity* on the part of the infant. Still, they have been received as trustworthy evidence, repeatedly, in the courts both of England and our own country. According to Blackstone, "crying, indeed, is the strongest evidence, but it is not the *only* evidence." And Coke remarks: "If it be born alive, it is sufficient, though it be not heard to cry, for peradventure, it may be born dumb." This same legal authority describes "motion, stirring, and the like," as proofs of live birth.

With this clear and definite understanding of what is legally regarded in this country and in England, as proofs of live birth, we must admit that fœtuses have been born *alive*, as early as *four* months of utero-gestation, and, of course, at all periods of a later date. Such a case is reported by Dr. Erbham, of Berlin, where the fœtus was only six inches long, and weighed but eight ounces. It survived half an hour; it moved its legs and arms, and turned its head from side to side; it also opened its mouth. The distinguished physiologist Müller pronounced this fœtus to be not over *four* months old.

Dr. Barrows, of Hartford, reports another case, especially interesting from the fact that the exact period of conception could be fixed. Miscarriage took place in 144 days, or less than five calendar months. The ovum was expelled entire. Before rupture of the membranes, (and of course before the child could breathe), its movements were quite vigorous. After the rupture, it cried out very distinctly; it afterwards breathed, with a gasp, for forty minutes. It repeatedly opened its mouth, and thrust out its tongue. It measured ten inches long, and weighed fourteen ounces.

This phase of the subject is, perhaps, presented in a

still more striking aspect, when viewed in connection with that form of the law of inheritance, denominated *tenancy by courtesy*. This phrase signifies, according to Blackstone, "a tenant by the courts of England," and it is applied to the case where the husband of a woman who dies possessed of landed property, not otherwise devised, acquires a life interest in said property, *provided* a living child was born of the marriage, during the wife's life. "In this case," to quote the old law language, "he shall, on the death of his wife, hold the lands for his wife, as tenant by the courtesy of England." If there had been no *living* issue born of the marriage, the estate would then revert to the woman's heirs-at-law, and the husband would be completely debarred. This old English law is still in force and operation in some of our own States; and cases not unfrequently arise, both here and in England, where the whole question of the life-interest in a large estate by the surviving husband, may turn upon the very nice and delicate point whether the infant, through whom alone he could inherit, was, or was not, *born alive*.

Perhaps I cannot do better to sustain my position on this question, than briefly to cite a few well-known cases in English and American jurisprudence. The first is the oft-quoted case of *Fish* v. *Palmer*, which was tried in the Court of Exchequer in 1806. The wife of the plaintiff Fish, was possessed of landed property. She died, after giving birth to a child which at the time, was supposed to have been born dead. In consequence of this assumed dead birth, the estate of the wife was claimed, and taken by the defendant, Palmer, her heir-at-law. Several years after, the husband was led to believe, from information derived from some women, who were present at the delivery, that the child had *not* been born

dead, and an action was accordingly brought by him to recover the estate; and it lay with the plaintiff to prove the allegation that his child had been born *alive*. The accoucheur who had attended the birth, had died in the interim—a most important witness; but it was proved that he had declared the child to have been living an hour before it was born; that he had directed a warm bath to be prepared; and when the child was born, that he gave it to the nurse to place in the bath. The child neither cried, nor moaned, nor manifested any sign of active existence; but the two women, who placed it in the bath, swore that when it was immersed, there appeared twice a twitching, or tremulous motion of the lips. No further sign of life was manifested, even by blowing into its throat. The main question in the trial was, whether the tremulous motion of the lips was a sufficient proof of the child having been born alive? The medical experts differed in their opinions upon this question; those for the plaintiff asserting that if the child had been born actually *dead*, there could have been no muscular movement in any part of its body. But Dr. Denman, an eminent obstetrical authority, who was called for the defense, undertook to make a distinction between *uterine* and *extra-uterine* life, averring that the child (though he would not say that it was absolutely dead) had not been born alive; and that the tremulous motion of the lips was due to the "remains" of uterine life. This was certainly very much like trying to split a hair. Unquestionably, the child was *either* dead or alive when it was born. If not the former, then, necessarily the latter, even though it *were* the "remains" of uterine life; for what, I would ask, are all *our* lives but the "remains," or results of the lives we acquired and

possessed in the wombs of our mothers? The jury, however, under the direction of the court, did *not* adopt Dr. Denman's hair-splitting view of the case, but pronounced that the child had been born living: and the plaintiff then recoved an estate, of which he had been deprived for ten years. "We thus see, to quote the language of a late distinguished writer on medical jurisprudence, that the English law does not recognise any distinction between uterine and extra-uterine life. The question is simply life or death—living or dying."

In the case of *Brock* v. *Kelly*, which came before the Vice-Chancellor's Court in 1861, the decision rendered confirmed the above view; although based upon a somewhat different kind of evidence, *viz.* the pulsation of the umbilical cord. The attending physician in this case had noticed at the time of the child's birth, and after separation from the mother, that there was a slight pulsation in the cord, showing a feeble but independent circulation. He had expressed the opinion that the child was living, and had directed it to be put into warm water to sustain its vitality. This was further confirmed by the nurse who had been heard to say that the child was born *alive*, but had died the same day. Dr. Tyler Smith, an eminent authority, supported the opinion of the attending physician, considering that the beating of the umbilical cord, *after delivery*, was a physiological proof that the child in question was *not* born dead. The Vice-Chancellor decided that the proof of breathing was not necessary here, but that there was sufficient legal evidence of *life after birth*, in the pulsation of the cord observed by the accoucheur. As Dr. Taylor remarks of this case: "This decision is in accordance with law and common sense. Pulsations in the cord indicate an

action in the infant's heart, as much as motion of the chest indicates an action of the intercostal muscles."

The third case that I shall mention belongs to this country. It is detailed in the July number of the *American Journal Medical Sciences*, 1870. Dr. Seals had induced labor in a woman by ergot, at about the seventh month of gestation. A large child was born, with some difficulty; but it did not make the slightest effort to breathe. There was distinct pulsation of the umbilical cord. Now, was this child living, or dead? As it had neither breathed nor moved, according to some authorities, it would be regarded as *dead*. The pulsations of the cord would have no significance with them. But that this infant was really born *living*, was proved by what followed. Flagellation and alternate sprinkling with hot and cold water produced a violent spasmodic contraction of the diaphragm. This condition continued for five minutes after the birth of the child. The cord was now severed, and about half an ounce of blood was allowed to flow from the fœtal end. The tongue, which had fallen back, was drawn forward; when the child began to breathe very feebly, and so continued to breathe at intervals. The heart beat very feebly. The pupils were dilated, and did not respond to light. The child was, in fact, suffering from compression of the brain. This condition lasted for one hour, when it ceased to breathe.

The last case that I shall speak of is also an American case, and one in which I was myself concerned as an expert witness. A gentleman of Delaware—a State in which the old English statute of *tenancy by courtesy* was still in existence—had married a lady possessed of a considerable landed property, and had removed into the

State of New Jersey. Here the wife gave birth to her only child. The labor was a difficult and protracted one, complicated moreover with puerperal convulsions, which proved fatal to the mother. The infant also perished almost immediately after its birth. Two highly respectable and intelligent practitioners assisted at the accouchment. Both of them concurred in the opinion that the infant, which was at full term, and fully developed, was living at the time of its birth, although it neither cried nor breathed. In accordance with this decision of the physicians, (which I believe was not disputed at the time), the husband very naturally deemed himself entitled, under the laws of Delaware, to a life-interest in his deceased wife's property ; and he so continued in possession for a number of years ; but at the expiration of this time, the wife's heirs-at-law thought proper to sue out a writ of ejectment, to dispossess him of the property, on the ground that his child had not really been born alive. The husband accordingly was put upon his defense, and I, along with others, was called, as a medical witness, to sustain it. Here, the whole question turned, of course, upon the *proofs of a live birth*. I had no previous knowledge of the parties, and could give my opinion, as an expert, solely upon the testimony of the witnesses of the birth. Fortunately, both of the attending physicians were yet living, and were present at the trial. They testified as to the difficult and tedious labor ; to the child being delivered by instruments ; to the mother's death from convulsions ; to the child being fully developed, that it did not cry, nor visibly breathe, though every effort was made to resuscitate it. But that it was not livid in the face ; that its lips were of a rosy hue ; that its heart and tem-

poral artery beat for some minutes after separation from the mother; and further, that the umbilical cord pulsated at the time of the expulsion of the child.

Under such circumstances, and fortified by the several cases, which I have just detailed to you, I did not hesitate to express my belief that this child was *legally alive* at the time of its birth, or more correctly speaking, that it was *born alive*. The rigid cross examination of the plaintiff's counsel tried to make it appear to the court and jury, that these feeble acts of the new-born infant were not strictly to be regarded as evidence of *true* life. They would not go so far as to maintain that the child was *actually dead*, but they wished me to admit that these actions partook rather of the nature of the force of *inertia* or spent-motion, of a machine, and that they were merely the *results* of the vital actions which the child possessed while still in the maternal womb. You perceive that the idea here broached was the same as that given by Dr. Denman years ago, in the case of *Fish* v. *Palmer*, which we have just considered; and my answer was that most undoubtedly, these movements of the child's heart and arteries were, in a certain sense, the result or remnants of its pre-existing uterine life, *not*, however, through the force of inertia, but precisely in the same manner in which both his own and my own vital movements—such as the pulsation of *our* hearts and arteries—were the "result and remnant" of our respective pro-natal existence, or of the vitality derived from our mothers; the only difference being, that in the case of the infant, these "remains" of vitality did not *continue* to live, but nevertheless lasted sufficiently long to demonstrate their actual existence. I may add, in passing, that the writ of ejectment was *not* sustained.

I believe that I have now presented all the important points connected with this subject of Live Birth. As we have seen, its medico-legal bearings cannot be disregarded by either the physician or the lawyer. Clear views upon this subject should be maintained, especially by the *legal physician;* therefore it is that I have deemed it not inappropriate to offer this paper before the International Congress of Medical Jurisprudence, now assembled in this city.

DISTINCTIVE FORMS OF INEBRIETY, WITH REMARKS ON RESPONSIBILITY IN DRUNKENNESS.

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For convenience, drunkenness may be viewed under three different forms or conditions. The first form is *primary*, and it is observed in, (*a*) casual or occasional drunkenness, and (*b*), neurotic or periodic drunkenness. In these there are found no special degenerations of physical structure or injury to important organs.

The *secondary* form is seen in habitual drunkenness. In this phase of inebriety, certain bodily changes have already taken place, or they are in progression. These modifications in the organism are the direct effects of alcohol, as it impresses the bodily structure, in the primary kinds of drunkenness; and they not only produce a substantial increase in the desire for intoxication, but they also operate as new incentives to alcoholic indulgence.

The *tertiary*, or final form of drunkenness may be called chronic inebriety. In this, the whole history of drunkenness in the individual—its causes, degenerations and disabilities are crystallized. The chronic inebriate shows all the physical, intellectual, and moral defects and incapacities of drunkenness, and that too, in a condition that is fixed and unchangeable.

(*a*) In the casual drinker, (of the primary form) there is little or no greed for the peculiar effects of alcohol. The drinking is the outgrowth of some chance occasion, and the drinker is not influenced by any pressing desire.

He can wholly abstain, without difficulty or disappointment; and, when the transitory occasion has passed away, and the effects of his intoxication have departed, he is ready to return, without special effort, to his customary modes of life.

The peculiarity of casual inebriety is this: it shows what drunkenness is, in its purity, and when it is without complications.

A very important point for consideration in casual drunkenness is, that as long as the influence of alcohol is paramount,—*there is partial paralysis of the whole body.* This, of course, interferes with acute and accurate perceptions,—and consequently abridges, and distorts knowledge. But casual drunkenness usually runs so brief a course, that no very considerable injury is apt to result from it.

(*b*) The other form of primary drunkenness, is quite different from this. There is a strong constitutional proclivity to intoxication which urgently impels to alcoholic excess. The neurotic desire for drink is not a matter of indifference, as is true of the casual drinker. Indeed, the crave for intoxication is believed to be, often overmastering. At all events, it is invariably so great, that it is *never* an easy thing for the will to resist it. Besides, periodic drinking is not a matter of a few hours, and there an end, but it lasts for several days. The strongest liquors are chosen by preference, and, of course, the intensity of partial paralysis—affecting the muscles, and the intellectual and moral instrumentalities—is proportionally augmented.

But in the neurotic drinker, the extended duration of the drunken excess, and the large quantity of alcohol consumed, begin to lay the foundation of various physical, and functional degenerations throughout the body.

Secondary poisons, such as carbonic acid and urea, sensibly affect the brain, as well as the organism at large. Diseases arising from the strain put upon the heart and blood-vessels, cause trouble and alarm. Changes in the structure and integrity of other bodily organs of the greatest importance, take place; inflammatory affections of the nerves (*neuritis*) often cause distress and disability; overgrowth of the connective substance of the entire structure produces complications every where; while alcoholic trance--a fundamental mind defect, misleads the understanding.

Let us sum up the facts thus far attained. We see an inebriate of distinctive form, (the dipsomaniac) who has had engrafted upon his constitutional besetment, such disabilities as these: 1st, secondary poisons; 2d, heart disease; 3d, degenerations of important organs; 4th, neuritis; 5th, alcoholic trance. *These* disabilities are incessant, and irksome. They are imperious, not optional or frivolous. The result is, that they so persistently irritate and distress the system, that it seeks rest and refuge in the paralysis of alcohol. The final consummation is, that there is produced a wearing and daily proclivity for intoxication, instead of a periodic proclivity. Hence, the daily sot--the habitual drunkard.

And this is the *secondary* type of drunkenness, of the original division of our subject.

As a matter of course, this increase in the drunken habit, and in the consumption of alcohol, is attended by additional physical degradation, and augmentation of the evils, and complications of drunkenness.

At length the toxic degeneration of the tissues of the system becomes so fixed, that further change in that direction, is next to impossible--there remaining, indeed, little else to be done. In the chronic inebriate therefore,

are displayed all the physical, and mental, and moral incapacities of alcohol. In him there is a constrained and difficult muscular movement, imbecility of intellect, and destruction of the moral nature. The only reason why the chronic inebriate is not on all occasions a brute and a monster is, that his life is mainly automatic, and his capacities are so reduced, that he is equally incompetent to formulate a motive, or to put one to the test. The chronic inebriate exemplifies our *tertiary* form of inebriety.

The question arises: What has all this to do with the responsibility of drunkenness?

Hon. Clark Bell says--(*Medical Jurisprudence of Inebriety*, p. 7). "The law assumes that he who, while sane, puts himself voluntarily into a condition in which he knows he cannot control his actions, must take the consequences of his acts, and that his intentions may be inferred."

The latter claim is substantially repeated in these words from the same source: "He who thus voluntarily places himself in such a position, and is sufficiently sane to conceive the perpetration of crime, must be assumed to have contemplated its perpetration." The distinguished jurist, Noah Davis of New York, says: (*Medical Jurisprudence of Inebriety*, p. 129.) "There is no excuse or defence of crime in insanity, because where insanity exists there is no crime."

The whole force of the former portion of this legal assumption, is contained in the supposition that the inebriate places himself *voluntarily* in a position wherein he *knows* he cannot control himself.

In regard to dipsomania, or neurotic drunkenness, the higher authorities agree with much unanimity, that it is an insane neurosis. That is to say—they classify it

in full family kinship with other acknowledged insane neuroses—such in fact, as are offered as defences for crime. Therefore there must be, *in respect to spasmodic inebriety*, some doubt relative to the *volitional* capacity of the inebriate. Amongst the authorities referred to, may be noted—Maudsley, (*Pathology of Mind*, pp. 108, 91, 107, 103, 97); Blandford, (*Insanity and its treatment*, pp. 139, 145); Daniel Hack Tuke, (*Psych. Medicine*, pp. 396, 397, 67, 70, 57); Bucknill, (*Psych. Medicine*, p. 101, and *Habitual Drunkenness*, p. 57); Wynter, (*Borderland of Insanity*, pp. 49, 50); Winslow, (*Lectures on Insanity*, p. 156—and there are many others.

With respect to the capacity of the inebriate to know what his powers will be when he is drunken, it is very doubtful if he can have any correct idea on that subject. How many *know* that paralysis is an essential and constituent element of the drunken state? and how many *know* that the will is always powerless over paralysis, in the exact degree in which paralysis is present? The inebriate is very apt to believe that, when a drunken man does not control himself, it is because of an inherent wicked and vicious disposition, and not because of the properties of alcohol. And so, indeed, many others think. But as for *himself*, the inebriate thinks he can, and often, that he will control his actions when intoxicated. His opinions on this subject are positive, and they are commonly the results of his false beliefs respecting his own drunken capacities.

The inebriate state is often attended by alcoholic trance. Who could foresee this? What is alcoholic trance? It is a condition of impaired consciousness, wherein the mind, is totally disrupted from its past existence, and also is incapable of connecting its present state, with the rational future. Now if a mind is de-

barred from the use of memory—from the rational experience of the past, how can it be expected to reason wisely respecting present and passing events ; or the probable anticipations of the future ?

Moreover—when the body, and mind, and morals, are handicapped with the secondary, and degenerative effects of alcohol—with heart disease, with trance, with functional and structural wreckage, with changed and deteriorated physical organs—and in unnumbered cardinal particulars—how can a man be presumed to *voluntarily* engage in anything, or rightly and rationally to *know* anything ?

I will offer some conclusions that have been suggested by the above discussion.

1st. A large proportion of the most violent drunkards are so closely associated with the insane neurosis, that there must be some doubts respecting their *volitional* capacity, in the matter of refraining from drink.

2d. The incentives to intoxication are not alike in different persons ; and they vary in the same individual, with the advent of physical degenerations, and organic diseases.

3d. There is serious doubt whether a mind in a condition of sobriety and normal consciousness, has the power to conceive of its existence in any abnormal state whatever—much less, has it the power to *know* the conditions and movements of abnormal consciousness.

A MEDICO-LEGAL VIEW OF ELECTRICAL DISTRIBUTION.

By Harold P. Brown, Electrical Engineer.

The marvelous advance made during the past ten years in the adaptation of electricity to the needs of modern life is but a mere suggestion of what the next decade will bring us. Millions of dollars have already been invested in electric lighting alone, and our cities are gridironed with copper wires, but a mere fraction of the demand for light has yet been filled. Our engineers are beginning to realize that, great as is the field for lighting, the field for motive power in factories and dwellings is tenfold greater. And beyond this lies an unexplored territory—heating, cooking and refrigerating by electricity, whose extent is beyond computation. To get an idea of the growth possible to an electrical industry in this country, one needs only to recall that the telephone, which was invented in 1876, had, at the close of the year 1888 411,511 instruments in use, with 243,764 miles of wire. During the same period electric lighting has assumed practical commercial shape, and it is estimated that over one million horse power is now in daily use for this purpose. Looking at the network of wires now used for intercommunication alone and multiplying their number by one thousand, and their cross-section by one hundred, which is a low estimate of the requirements of the future for all uses, we can realize what a tremendous problem is involved in the distribution of this amount of metal. Electricity will do all the hauling and street car work in the cities of the future, while the horse with his omni-

present manure and the rough footing he requires for heavy loads, will be relegated to pleasure driving and farm service. The streets will then be smoothly paved and clean, and the noise and rattle of to-day forever silenced. The air will no longer be polluted with smoke, for one immense station provided with triple or quadruple expansion engines and furnaces in which combustion is complete, will supply heat, light, power and motion. The consequent addition to human health, comfort and length of life by the banishment of dirt and noise will be enormous. Electrical disinfection and sewage purification are already in use, and since we can command immense volumes of electricity, it is not improbable that a better understanding of the laws of meteorology will enable us to at least partially control the weather, and thus avoid the evil effects of severe changes and extreme temperatures. But to offset these advantages, earth and air are filled with wires, many of which may be charged with swift and invisible death which may overtake the most cautious in a myriad of unseen ways. If, then, the near future is to see a thousand electrical horse power distributed where now we have but one, it is clearly the physician's duty to point out the dangerous currents, and it remains for the lawyer to secure wise legislative action preventing the adoption of systems or apparatus which needlessly jeopardize human life or health. What work could be more appropriate than this for an International Congress of the Medico-Legal fraternity? The list of deaths from electric lighting, which forms an appendix to this paper, numbers, though incomplete, over 91 in the past few years; yet it must be borne in mind that not one street in a hundred or one building in a thousand is as yet lighted by electricity, and more than half the house lighting now done

is the work of the continuous current, used at a pressure that cannot possibly prove fatal. The subject evidently deserves your serious attention, since this list proves that I am no mere alarmist. There are also many maimed and crippled men who are the victims of the false economy which uses dangerous systems of electrical distribution in order to make an apparent saving in first cost of equipment. As an example of the injury which is liable to be inflicted upon any person in a city having a high-tension alternating current station, Mr. W. J. Bell, of St. Paul, has been invited to be present today. This unfortunate young man has had his nervous system severely if not permanently wrecked by touching, while holding a district messenger service wire, a pole step-iron, which happened to be in contact with a Westinghouse wire some distance away, by means of a a guy to a pole on the opposite side of the street. This was on a dry day and the insulation of the wire was apparently uninjured. It is interesting to note that, although terribly injured, Mr. Bell was unconscious of any sensation of pain. Dangerous electrical systems are being rapidly installed in all parts of the country, and, in the interests of human life and health, prompt action is imperatively demanded. It will not do to rely upon the presumption that the electric light or power people *must* sufficiently guard public welfare in order to protect their own business. Nor will it do to rely upon their own statements, for if you listen to the stories told by the worst offenders in this line, you will hear that their system is "perfectly safe," and that the dead man's "carelessness" caused each fatality. This was the same cry that was raised by the oil refiners when it was proposed to require a high fire test by law. Nor should we accept as an infallible guide the so-called "professional scien-

tist" who nowadays seems to believe that his opinion must necessarily coincide with the wishes of the corporation which retains him. No matter if scientific accuracy must be sacrificed, for science gives its rewards only in return for work accomplished and not for written opinions designed to assist stock-jobbing. When the water gas question was under discussion some years ago, one of this fraternity gave his written opinion to a New York gas syndicate that a small percentage of carbonic oxide in illuminating gas was necessarily fatal. Shortly after he was "acquired" by a water gas system and testified without hesitation that thirty-two per cent. of carbonic oxide need not be regarded as detrimental. This same authority is now a vehement advocate of the "safety" of a notoriously dangerous electrical system, —the one that has crippled Mr. Bell and Mr. Young,— that has killed a score or more of men in the past few years; that has been adopted by the State of New York for electrical executions upon the advice of the Medico-Legal Society. This class of men is responsible for the favorable action taken by the underwriters in allowing the dangerous alternating current to be used so recklessly as it is in this city and elsewhere. Even the constructing engineers of this system admit that insurance regulations and inspections outside of New England, Philadelphia and Chicago are of little practical value. The only safe and proper course is to have a thorough examination made by unpurchasable medico-legal experts and laws in accordance with their recommendations submitted and urged for passage. But it may be said that the laws already in force give the various boards of health full jurisdiction over any "business, matter or thing dangerous to life or detrimental to health." True, but while every other source of danger is manifest to one or more of the

senses, electricity is silent, impalpable, odorless, invisible. A man in the lawful pursuit of business or pleasure may be flashed out of life or have his nervous system hopelessly shattered by a contact between a metal railing and a damp pavement, simply because some electric lighting company chooses to use a dangerous current or neglects safeguards on account of their expense. Special legislation is therefore needed to prevent these hidden dangers. Burying the wires is no protection unless you bury with them lights and motors; Chicago has never had overhead electric light wires, and yet at least six men have been killed in that city by electricity. The wires of the telephone, telegraph, messenger service, fire and burglar alarm, etc., while harmless in themselves either above or below the surface, may be made death-dealing by the presence of a dangerous system of electric light or power. Clearly the best course is prevention; it is far easier to keep out dangerous systems than it is to drive them out after they have once secured a foothold. Granting that the laws now in force give the boards of health ample jurisdiction, it is nevertheless necessary that some scientific commission should clearly point out what is dangerous and what is safe, in order that protection to life and health may be secured without putting any safe and legitimate electrical systems under needless restrictions. If corporations are permitted, as at present, to enmesh our cities with wires carrying death-dealing currents—currents which can escape and produce *death through any known insulation*—it will not be long before the public clamor will cause the adoption of laws hampering if not destroying all electrical industries. During the past year a long series of careful experiments was made by the writer to determine the comparative danger to life of the various

forms of electrical currents, the results of which were considered at the December meeting of the Medico-Legal Society. This work proved beyond question that the continuous current, which flows steadily in one direction, was in itself perfectly safe, at least up to a pressure of 1,400 to 1,500 volts; that devices suggested by the writer would make its use reasonably safe in light and power systems up to 3,000 volts; that an interrupted or pulsating current was dangerous; and that an alternating current, known by physicians as "voltaic alternatives," whose impulses are rapidly reversed in direction, was deadly at a very low pressure. These conclusions are verified by the death record, for out of the NINETY-ONE fatalities whose particulars I have been able to obtain, not one is due to the low-tension continuous current; but nine to the high-tension continuous, fifty-five to the pulsating, and twenty-seven to the alternating. The latter has but recently come into extensive use, and its plants are supplied with new insulated wire; as this insulation deteriorates with age, and as the system is extended, its death-list will be rapidly increased. The physiological effects of these currents upon the nerves and muscles also bear out these conclusions, since it is well known that the continuous current from a galvanic battery causes no painful sensations at limited pressures; interrupting the same current produces severe muscular shocks, while alternating it intensifies the shocks. About fifty of the deaths from arc light apparatus was caused by the victim's handling a circuit *already grounded*, while he at the same time touched a second ground, thus completing a circuit through his body. It is obvious that if automatic apparatus should shut down the current at the instant the first ground occurred, or reduce the pressure below the killing point,

there would be no more deaths from this cause. Such apparatus has been publicly exhibited by the writer, and it has been shown that current sufficient to operate the device can pass through a living being without ill effects. All the deaths from high-tension continuous current were evidently caused by what is known as an "extra current," which is a rapid rise and fall of the pressure caused by breaking a circuit in which is interposed a large electro-magnet. This can be prevented by exciting the dynamo field-magnets from a second dynamo, or by using the apparatus suggested by M. D'Arsonval, or that designed by the writer. It is therefore an easy matter to make *perfectly safe* the use of the high-tension continuous current for arc or incandescent lighting, but these devices are no protection against the alternating current. Leaving for a moment the danger question, I wish to direct your attention to the present methods of electrical distribution; to the direction and apparent tendencies of growth, and to the probable result if wise legal restraints are not forthcoming. The electrical terms which it is necessary to use in this connection are the volt, the unit of electro-motive force or pressure, analogous to "head" or pressure in hydraulics; the ampere, the unit of current volume, which may be compared to the amount of water flowing through a pipe, and the ohm, the unit of resistance or friction. As in hydraulics, the product of pressure and volume (volts and amperes) is expressed in horse power. Coming now to electrical distribution, it is evident that the same amounts of horse power may be distributed by a large flow of water or current under low pressure, or by one-tenth the volume with ten times the pressure. This roughly outlines the two leading methods of electrical distribution, the multiple arc, using large volume and

low but constant pressure, and the series using small but constant volume and high pressure. The series system, which is preferable for arc lights, comprises a single circuit leading from one terminal of the dynamo, through each lamp, and returning to the other terminal. Every lamp thus receives the entire current, but uses up only a fraction of the total pressure. Fig 1.

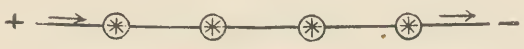

Fig. 1.—Series System.

An apt illustration of this system is a series of water wheels operated by a small stream of water which has a fall of ten feet through the first wheel, then flows to the second wheel, drops ten feet through it, and so on. The entire amount of water has finally passed through each wheel and the dynamo then hoists it back to its first level. But each wheel has used only a portion of the total fall (Fig 2). In the multiple arc system on the

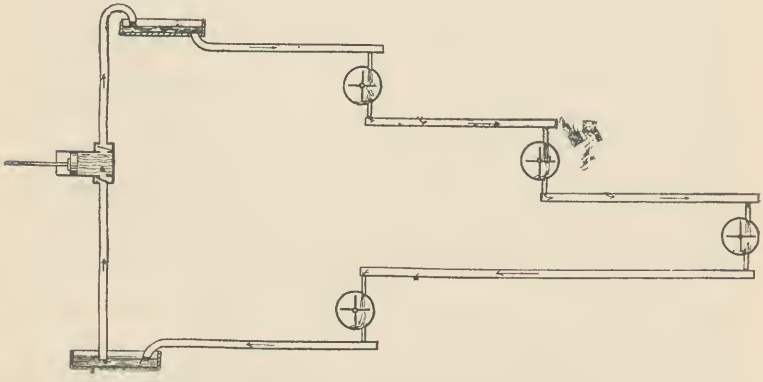

Fig. 2.—Water Analogue of Series System.

other hand, one pole of each lamp is connected to the positive and the other to the negative terminal of the dynamo. It is comparable to a large volume of water,

with a total fall of but ten feet, supplying a number of water wheels placed on the same level. A small portion of the water passes through each wheel, but each has the benefit of the entire fall. (Figs. 3 and 4).

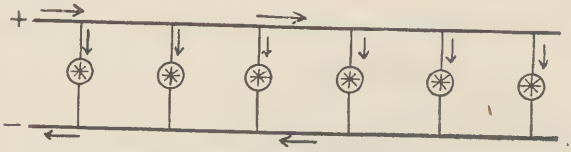

FIG. 3.—MULTIPLE ARC SYSTEM.

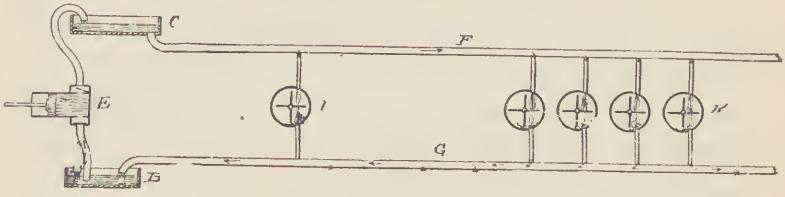

FIG. 4.—WATER ANALOGUE OF MULTIPLE ARC SYSTEM.

It will be evident that the former system is the one better adapted to convey power to a distance, because, since the quantity of water is small and the fall great, a small flume or channel will suffice; while the multiple arc system would require a wide and deep channel, and each inch of fall in the channel would cause an appreciable loss of head. Where we have a fall of one hundred feet we can afford to use ten per cent. of it carrying the water to a distant point, but when the fall is only ten feet, every inch is precious. This hydraulic comparison, though it may convey a practical idea of the subject, is not a perfect one, since the laws of water friction in flumes or pipes are very different from the laws of electrical flow through conductors. There are other technical differences which need not be considered in this connection, but it may be of service to say that while a

water wheel can be constructed to work with either high or low pressure, with small or large flow of water, arc and incandescent electric lamps impose limitations upon both current and pressure. The amperes used by a standard arc lamp may vary from six to eighteen, and the volts from thirty to forty-eight; below this limit the light grows dull and red, while above this it becomes blue and unsteady. The best commercial results in economy, color and steadiness are obtained from a lamp designed to operate with nine and a half amperes at forty-five volts pressure. An incandescent lamp is even more restricted in range. Taking a sixteen candle power lamp as a standard, it is at present impossible to get a carbon filament that will have a satisfactory length of life under a higher pressure than 125 volts, with a current of less than 0.38 amperes. The other limit would be a lamp requiring about 9.6 amperes under a pressure 5.0 volts. It will be noticed that the same amount of power is absorbed by each of these lamps, since the product of each pair of factors is 48 watts, or $\frac{48}{746}$ of a horse power. It is desired to increase the resistance of the carbon filament, thus allowing increased pressure and decreased current, which would permit a smaller wire to be used for conductors. To get a practical idea of the value of pressure, it need only be remembered that a circuit to convey fifty horse power 1,000 feet to be used in arc lamps in series, with ten per cent. loss in conductors, would require but five lbs. of copper, though in service 100 lbs. would be used, with one-third of one per cent. loss. It would require 5,222.72 lbs. of copper to convey to the same distance with ten per cent. loss, the same amount of power to operate incandescent lamps of 110 volts, in multiple arc; or 12,890.88 lbs. if 55 volt lamps were used. To carry the same

amount of power double the distance with the same loss would require four times the weight of copper. Thus it will be seen that the great problem in electrical engineering is to reduce the amount of copper required without increasing the loss of power in transmission, and that there is a great temptation to use dangerous pressures in order to reduce the cost of copper conductors.

Two combinations of the series and the multiple arc systems have been devised, called by some the "multiple series" and the "series multiple." These require no more copper than the series system, but their disadvantage is that no lamp or motor can be turned off without altering the amount of current received by all the others, unless it be replaced by an equivalent resistance and its amount of energy wasted. This limits the use of these systems to fixed loads for prearranged hours (Figs. 5, 6 and 7). It is evident that if one of the lamps in group

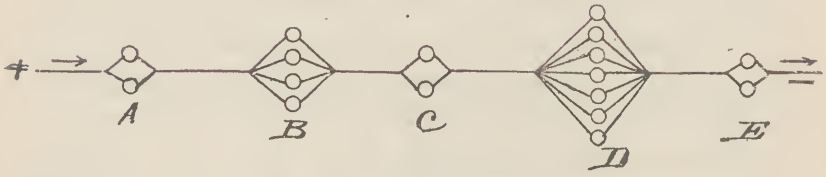

FIG. 5.—MULTIPLE SERIES SYSTEM.

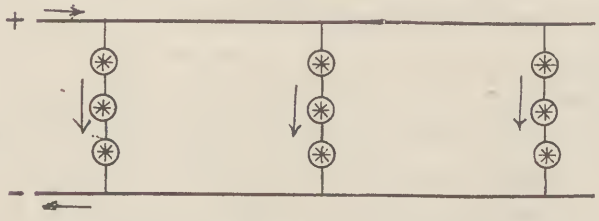

FIG. 6.—"SERIES MULTIPLE" SYSTEM.

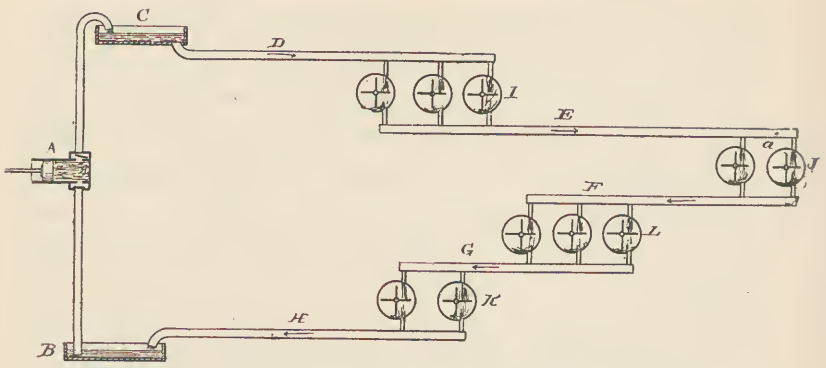

FIG. 7.—WATER ANALOGUE OF MULTIPLE SERIES SYSTEM.

A, Figure 5, should be turned off, the other lamp would receive the entire current, which is more than it could withstand; while if any lamp in Figure 6 should fail, the others in the same series would be extinguished.

Mr. Edison's three-wire system connects the negative terminal of one dynamo to the positive of the second dynamo; from this junction a central wire is carried out (middle wire of Fig. 8), and half the lamps are placed between it and a wire from the positive of the first dynamo (lower wire of Fig. 8), and the other lamps between it and the negative of the second (upper wire of Fig. 8). Thus each wire carries but half the current that would be needed if all the lamps were run from one machine; on that account but half the weight of wire is needed for each conductor. But at the same time we have twice the electromotive force at our service, since we have the sum of the pressures given by the two dynamos, and can therefore again divide the size of each wire by two, leaving the total weight but three-eights of the amount required by the multiple arc system for the same number of lamps. And as no current will flow through the middle wire when the number of lamps is

equally divided, its size may be reduced somewhat further.

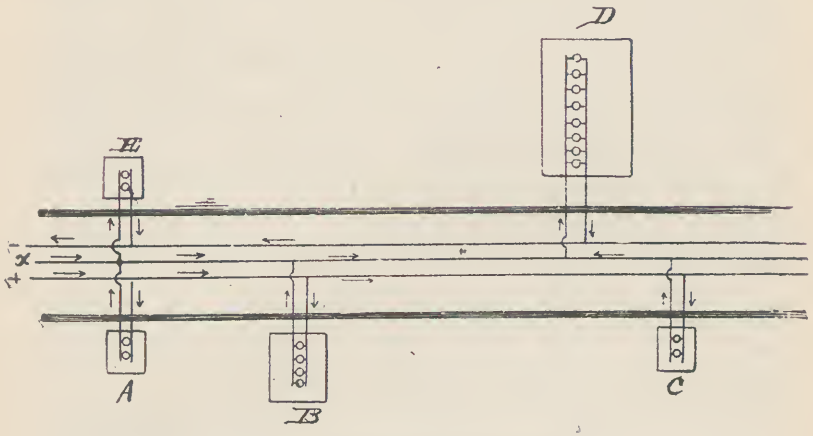

FIG. 8.—THREE WIRE SYSTEM.

This system is far in advance of all others for use in closely built cities, but to give the best results it needs constant watching to keep the loads equally divided, and it requires too much copper to be used to advantage on long circuits through thinly settled towns. On the

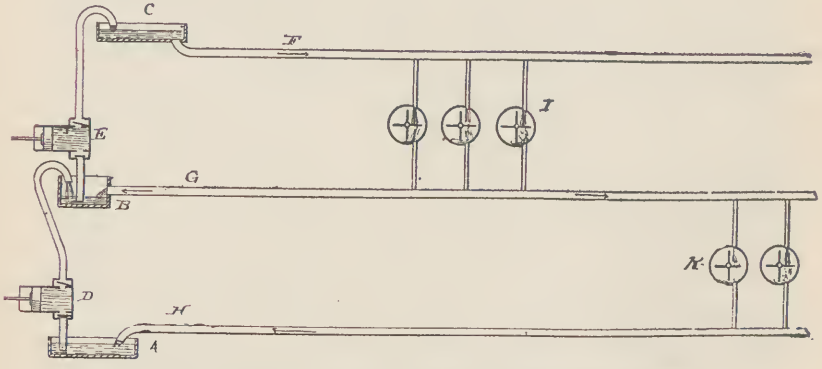

FIG. 9.—WATER ANALOGUE OF THREE WIRE SYSTEM.

other hand, it entails no risk to life or health and can be readily operated under ground.

As most of our smaller cities and towns are anxious to have the incandescent light, both on account of its many advantages and as a matter of local pride, there is a tremendous demand for a system that can choose the largest users of light in an area of many miles without requiring copper enough to dishearten the average investor. This has called into existence the alternating current or transformer system, which has come into very extensive use not only in country towns, where, if anywhere, there is a legitimate field for it, but even in large cities, where every reason founded upon safety, economy or dividends is clearly against it.

The alternating current system is based upon the fact that when an electrical current is set up in a conductor, it produces, by what is called induction, an electrical impulse in the reverse direction in any closed circuit parallel to the first; and when the current is broken in the first or primary wire, it induces in the secondary circuit a current in the same direction. The same results are produced, though with less energy, when the primary current pulsates; but the greatest effect is given when it alternates. This effect is intensified by wrapping both the primary and secondary wires around a core or helix, which should form a closed magnetic circuit and be composed of thin insulated layers of iron. By using the same number of turns and size of wire in both coils the currents in each circuit may be made approximately the same; or if the primary has ten times the number of turns of the secondary, the latter will have a current with about one-tenth the pressure and ten times the volume of the primary current. A current of low tension and large volume may thus be obtained for lighting, heating or welding, or the process may be reversed and high pressure obtained.

This apparatus, which is called a transformer or converter, may be connected in series or in multiple on a primary circuit through which flows an alternating current under high pressure. A small wire or pair of wires will convey the current for several miles with but little loss in transmission. I must admit that the slight cost of primary conductors for a single dynamo, the apparent simplicity of the system and the ease with which converters may be inserted wherever incandescent lamps are needed, makes it exceedingly attractive. Some of the promoters of the system have fairly gone wild over it and are making fabulous claim as to its economy and efficiency,—claims which, if true, would revolutionize the age by giving us perpetual motion. Their sanguine enthusiasm has made an army of converts, many of whom expect to be overwhelmed in a golden stream of dividends.

But business men are not alone in yielding to the seductive charms of this system, for it has induced in the minds of many prominent electricians a fanatical enthusiasm which is almost a fetich worship. And when, a year ago, the writer called public attention to the deadly character of the alternating current, the heretic was assailed from all sides with a burst of invective and denunciation. It is not my province to lie in wait for "electric sugar" schemes, and I should not have felt called upon to protest had this dangerous system not been introduced as safe and harmless. Hear what its advocates have publicly and officially said of it; I quote from letters presented at a hearing before the New York Board of Electrical Control and published in the *Electrical World*, of July 28, 1888:

"The alternating current, while disagreeable, is far less dangerous to life than a direct current of the same tension. Personally I have received

the full thousand volt current from an alternating current machine, not once but half a dozen of times, and I have received the direct current in the same way, and, while the direct current would always make one sick for some time after the shock, the alternating current leaves no such effect."

T. Carpenter Smith, of Westinghouse Co.

"Opening the circuit and introducing one's self into it merely subjects one to the pressure of 1,000 volts, which has never yet proved fatal."

S. C. Peck, of Thomson-Houston Co.

"No fatality can occur, or serious inconvenience result, from a shock from an alternating current having a pressure of that already cited, 1,100 volts."

M. M. M. Slattery, Ft. Wayne Jenney Co.

"I have myself received 1,000 volts without even temporary inconvenience."

".....up to the present time no accident to life or property has been recorded."

".....our system has safeguards, which make it *absolutely safe* to life and property."

O. B. Shallenberger, Electrician Westinghouse Co.

"An alternating current is far less dangerous as to fire or life risk than a current of what is known as the continuous or direct current type."

"The effect of the alternating current is immensely less, both as to burning and to possible death, than the direct current of the same volume and pressure."

H. M. Byllesby, Gen'l Manager Westinghouse Co.

"In order that any danger, not of death, but of shock, could occur to any one, it would be necessary to take hold of both wires (and they should be bare at that, while those we use are thoroughly insulated) in order to obtain a current through him and to the ground."

The Safety Electric Light Co., (Westinghouse.)

"There is even reason for supposing that the alternation of current would tend to prevent destructive effects, each current tending to undo the work of its predecessor."

East River Electric Light Co.

Hearing these statements one would conclude that the alternating current was gentle and harmless, but the records show that prior to the date of the writing of these letters, there had been killed by the same alternating current, two men in Paris, one on the Czar's yacht, one at Buffalo, N. Y., one at Trenton, N. J., five in New Orleans, La., one in St. Paul, Minn., and one at Lincoln, Neb.

Since the risk in the public use of a deadly agent is increased a thousand fold if its promoters sell it as safe, I feel that I am justified in using all possible means to educate the public to distrust both the system and its owners. This, in connection with the bitter personal attacks made upon me, is the cause of my activity in the matter.

It is undoubtedly true that many of the persons around an alternating current station have taken slight shocks without injury, just as a plumber can brush his hot soldering iron with his finger tips without getting burned. But when I gave the most vehement advocate of the alternating current an opportunity to publicly demonstrate his faith in his statements by taking the alternating current from hand to hand for the same length of time and at the same pressure that I would first take the continuous current, before a committee of experts, he carefully ignored the letter and showed that he did not dare to risk his life.

My charges against the alternating current were sustained by the most convincing proofs, and the makers of alternating current apparatus, with but one prominent exception, have recently instructed their agents to sell it as dangerous. With these companies I have no further quarrel, since the public, when warned of the danger, must assume the responsibility of its selection and carelessness. But no honest man can approve of a person who states over his official signature, that

"The usual points of contact in accidental shocks received from electric circuits are through the hands, or some other portion of the body protected by tissues of greater or less thickness, and, as a matter of experience it has been found that pressures exceeding 1,000 volts (alternating current) can be withstood by persons of ordinary health, without experiencing any permanent inconvenience."

GEO. WESTINGHOUSE, Jr.,
Pres't. Westinghouse Electric Co.
(N. Y. *Evening Post*, Dec. 12, 1888.)

Let me show the result in trusting this statement; I quote from the Dallas *News* of April 24, 1889:

"Last night, about 8 o'clock, Thomas Madigan, a plumber in the employ of A. McWhirk, lost his life in the cellar of the Grand Windsor Hotel in a manner which illustrates the danger of coming into contact with electric wires. It appears that the unfortunate man, at the hour above stated, while standing on a pump designed to raise water with which to work the hotel elevator, lost his footing, and, to save himself from falling, seized one of the Queen City Company's electric wires that was trailed to the roof of the cellar. His hands were wet, owing to which, and the forming of a ground connection by the pump and the water pipe, the electric current was discharged into his body.

"He fell to the floor with a scream and died within ten minutes. His hands were horribly burned and the remains gave out that odor peculiar from a body struck by lightning. Mr. Henry Garrett, the electrician in charge of the Queen City Electric Light Works, said the wires were insulated with the regular waterproof covering."

Correspondents of mine, who were in the room soon after could find no break in the insulation, though there must have been some pin-hole made by the discharge itself, which escaped their notice. This was a thousand volt alternating current.

I ask the lawyers and physicians in this assembly what would be the fate of a druggist who occasioned the loss of twenty or more lives by selling arsenic in bottles labeled: "This powder is sweeter than sugar, and can be taken without permanent inconvenience by any person in ordinary health."

As a result of my experiments and the wide publication which the press has kindly given them, the danger of the alternating current is admitted by all excepting Mr. Westinghouse and his employes. In view of this fact there was never a finer example of the bitter irony of fate than the legal adoption by the State of New York of the safe and harmless Westinghouse current for electrical executions. This use cannot fail to convince the public that this current and its promoters must be

cautiously dealt with, and that the greatest safety lies in confining the former to the penitentiaries.

For this reason I have done all in my power to place Westinghouse apparatus in the prisons at Sing Sing, Clinton, and Auburn. The Dallas case of death by the passage of the alternating current through waterproof insulation is a remarkable one, but it was closely followed by a similar fatal accident, on May 8, in the North River Tunnel. The victim, a laborer named James Maroney, seated himself on the air pipe, leaned back against the insulated wire from an alternating current machine and was instantly killed. The insulation was of the best character.

These cases accentuate the special danger of the alternating current system, which is the difficulty, nay, the *impossibility*, of maintaining the insulation of its conductors. A continous flow of water may be passed through a system of pipes under heavy pressure and at high speed, without starting a leak through the joints. But should its flow be suddenly checked or reversed its momentum would force every joint, if it did not shatter the pipe itself.

In the same way a continuous current of electricity, through under high pressure, may be easily kept to its path by suitable insulation, but the rapid reversals of the alternating current subject the insulation to a tremendous strain,—an actual molecular vibration, which tends to break down the insulation and permits or causes actual leakage of the current. A test of the wires of one of the systems in this city, using a pressure of 1,000 volts, showed nearly 800 volts between either wire and the earth. As 140 volts pressure with the alternating current has produced fatal results, this fact is a very unpleasant one; it means that any person touching

a wire in contact with these conductors runs a terrible risk.

This rapid charge and discharge of the conductor produces a corresponding effect upon the metal armor of the insulation, if any is used, or upon the moisture surrounding the insulation if the wires are placed underground, or on overhead lines during wet weather. We have, in fact, an enormous Leyden jar or condenser, in which the conductor serves as the inner foil, the insulation as the glass partition, and the moisture or armor as the outer foil. These are in a state of constant tension, and their static capacity is of course dependent upon the area of the surfaces exposed and the character and thickness of the insulation. Indeed, a system of converters for electric lights and motors has been patented which is based upon this principle, and the enthusiastic inventor actually proposes to connect one terminal of his condenser converters to the earth. This, if adopted, would bring rapid wealth to coroner and undertaker.

It is undoubtedly true that both Madigan and Maroney lost their lives by a static or Leyden jar discharge which pierced the insulation and established a path for the current itself. This means that when the wires of the alternating current system are placed underground, as is the case at Dallas, their entire insulation surface, whether surrounded with the moisture of the earth or with lead pipes, becomes an immense condenser, which is ready at any moment to discharge through the body of any person touching the house wire while standing on a ground connection, if there is any weak point in the converter insulation. Indeed, it may even puncture the insulation, as it is well known that a discharge of static electricity can be made to leap several inches through the air or to force its way even through plate

glass. If these wires are above ground the same effect may be produced during wet weather, as is shown by the death of Charles Devlin, in New Orleans, on Nov. 17, 1888. At about 8 o'clock on a foggy morning, a lowered arc lamp struck his check while he stood on a wet pavement, and he was instantly killed. Investigation showed that the arc dynamos were *not* running, but the alternating current wires, which were carried on the same line of poles, were in service. This condenser discharge is very marked during a thunderstorm, and converters and dynamos are frequently burned out in this way. Occasionally the discharge is made to telephone or telegraph circuits with disastrous results.

Disregarding for a moment the danger question, it is evident that there is a considerable loss of current due to this cause, the amount of which has never been determined, but careful tests will soon settle the question. In many other ways losses are incurred in this system, which finally overcome all its apparent advantages. In the first place there is probably such a thing as inertia in conductors, which makes it require less power to start and maintain a continuous current than to set up a flow in one direction, stop it and set up another in the opposite direction.

Continuous current dynamos are in daily use which have a commercial efficiency of at least 92 per cent., while the Westinghouse alternating current dynamo gives not more than 75 per cent. at full load, which leaves, on this account alone, 17 per cent. against the alternating current. In this and the following figures concerning this system I quote from the report of Prof. J. H. Denton, of Hoboken Institute of Technology, made to the Society of Gas Lighting, and suppressed presum-

ably on account of the gloomy facts presented, lest the price of stocks should be affected.

At the Pittsburgh tests, made by Prof. Denton without converters, 10.97 lamps of 16 c. p. each per belt horse power were obtained (see p. 36), with the Westinghouse dynamo, whose efficiency is 75 per cent. at full load (see p. 56). From these data we find that 14.626 of these lamps can be obtained from one horse power. 500 of these lamps from 10 converters of 50 lights each would therefore require 34.185 actual horse power delivered from the converters to the lamps.

There is a loss of 8½ per cent. in the converters themselves at full load (see p. 36), and the 10 converters will therefore require 37.36 horse power in their primary coils. The Westinghouse dynamo, at full load, has but 75 per cent. efficiency (see p. 56), and to deliver 37.36 electrical horse power it must absorb 49.81 horse power. To operate 500 of the same lamps from a continuous current dynamo with 92 per cent. efficiency would require but 37.15 horse power. This indicates a loss for the Westinghouse system of 12.66 horse power for 500 lamps; it therefore requires *one-third more power at full load* than the *same* number of lamps from a *continuous* current system.

At half load, 10 of the same converters with 25 lamps each would require 17.093 horse power for the lamps themselves; there is a loss in the converters at half load of 14 per cent. (see p. 37), and therefore 19.875 horse power must be delivered to the converters. The Westinghouse dynamo at half load has but 60 per cent. efficiency (see p. 55), and it therefore requires 33.125 horse power to drive the 250 lamps. Whereas with the connuous current dynamo, having 86 per cent, efficiency at half load, the 250 lamps would require but 19.875 horse

power. The Westinghouse system therefore requires *two-thirds more power at half load* than the continuous current system, aud at a lighter load the showing is even worse. In Cuntz and Wagner's report on the Westinghouse system (see p. 4). it is found by dynamometer that one lamp on a forty light converter requires 0.393 horse power, after deducting the friction of the dynamo itself. If every house had but a single lamp burning on each converter there would be *less than three lamps* of sixteen candle power obtained from *one horse power*.

With smaller converters the loss at minimum load would be less, but, on the other hand, the loss at maximum load would be greater. When it is remembered that the heaviest demaud upon an electric light station is for *but one hour out of the twenty-four*, and that the entire number of lamps in any one building is seldom if ever burned at once, the lack of economy is very apparent. It is also very evident that Mr. Westinghouse had good reasons for making no reply to my letter of April 4, in which I called attention to his advertisements claiming that his electric lighting system gave "fifty per cent. more light from a given expenditure of power (fuel)" than could be obtained from the direct or continuous current system. I offered to purchase his apparatus at list price to present to the John Hopkins University, if a thorough test of both systems at the University Electrical Testing Bureau should verify his claims. I could not resist the suggestion that, if power could be converted from one form to another and fifty per cent. gained in the operation, perpetual motion was at his command. There was no reply, though the advertisement was withdrawn, and I am having the test of his apparatus made for my own information.

The only remaining advantage of this promising sys-

tem is its apparent saving in weight of conductors, but even this will not stand investigation, since lamps of 50 volts are used and the secondary or house wires will weigh four times as much as is required in the multiple arc system with 100 volt lamps, or $10\frac{2}{3}$ as much as is needed in the three wire system. The economy of its primary wires would be entirely neutralized if the complete lighting of a circle with but one mile radius were undertaken, the blocks being of the size of those in this city above Fourteenth street, and 1,200 lights allowed to each block. Using the *standard* tables of the Westinghouse and the three wire system, the former would require 9.3 lbs. of copper per lamp for feeders, 4.5 lbs. for mains, 1.0 lb. for converters and 32.0 lbs. for house wiring, or 46.8 lbs. in all. While the three wire system, with 110 volt lamps of same economy, would need 21.4 lbs. per lamp for feeders, 1.5 lbs. for mains and 3.0 lbs. for house wiring, or a total of 25.9 lbs. The total number of lamps in the district would be 980,000, requiring 45,864,000 lbs. of copper with the Westinghouse system, or 25,382,000 lbs. with the three wire system.

In practical service it is impossible to operate two alternating current dynamos, whose alternations exceed 200 per second, on one system of wires; therefore a pair of wires must return to the station for every group of lamps equivalent to the capacity of the largest dynamo, which is at present 1,200 in this country, though larger ones are projected. Increasing the dynamo capacity will not remedy this, as the weight of the wires must be correspondingly increased. To offset this, higher pressure is suggested, and in several towns in this country 2,000 to 2,500 volts pressure is used; but a system is under construction in England which proposes to use 10,000 volts. If 1,000 volts pressure of the

alternating current *kills through water-proof insulation,* what can be expected of this outrageous pressure? An Irishman suggests that it will kill more English than dynamite and be at once ascribed by the London *Times* to the Home Rule party.

In the past year electrically propelled street car systems have achieved a financial success and in several cases have, from the start, paid better returns on investment than when horses were used. The storage battery system is, of course, the best adapted for city use, as its power is self-contained ; but it utilizes a less proportion of its motive power than the others, and its annual percentage of depreciation is not yet determined by the test of time.

The conduit system seems next on the list, as its conductors are out of the way ; but the difficulty in maintaining the insulation is a serious drawback. The system using a single roller or trolley touching a bare overhead wire, with the rails as a return conductor, has been the most successful. As yet they have used only the continuous current with but 500 volts pressure, and the system involves no risk to life. But the use of the rails as a return is inadvisable in a city, since a telephone or telegraph wire, by falling upon the bare conductor, would establish a path of low resistence to the ground, and would therefore receive a heavy current which would destroy the instruments and perhaps start a fire.

With *two* overhead wires and a double trolley this risk would be greatly diminished. The alternating current motor, when it is made an economical success, will have one great advantage for street car use, since it requires neither commutator nor brushes. But the idea of a bare wire carrying the alternating current through our streets is a most horrible one; this must be

prevented at all hazards. The attempt will undoubtedly be made, and the people who undertake it will unhesitatingly guarantee that it is "perfectly safe."

Aside from this, the tendency to constantly increase the pressure is the most serious danger of modern city life, and yet no attention is paid to it. Boards of Health look sharply after plumbing and drainage which can cause death only after giving long continued warnings to its victims ; they promptly suppress rendering establishments whose odor is offensive but not deadly; they override all personal rights by isolating cases of contagious diseases ; and yet not a move has been made to secure protection against a measure of false economy which has slain its hundreds. A hundred families have been robbed of bread-winners and few coroners have been bold enough to even mildly censure the offending corporation. Under the law, steam boilers whose explosion can inflict death in but a limited area are carefully watched and inspected; the storage of oil, powder or dynamite in cities is prohibited and food adulteration checked; but dangerous electrical systems are allowed to enmesh an entire city with the executioner's current which seeks the earth by every channel.

Ought we, as law-abiding citizens, to submit tamely to this constant and ever-increasing danger to the lives of those dear to us ? Must we abandon telephone and messenger call lest their wires bring the deadly current into our homes, and wait in fear and trembling until among other hundreds of victims, there is killed some prominent man, whose wealth and influence will rouse the authorities to action ? It is probable that this may soon occur, as the building of the New York Bar Association is to be lighted with the alternating current system, and only a thin layer of questionable insulation

will keep from some of our most prominent jurists an electric summons to appear before the Most Supreme Court.

Is it not our duty to unite in preventing a wanton sacrifice of human life, as physicians would do were it a new and contagious disease, or lawyers if it were a legal error placing innocent men under danger of a death sentence? I earnestly ask your assistance in putting an end to this needless slaughter, and it will require but a determined effort on your part to stop it.

If you will appoint a medico-legal committee to make an examination into this matter, I will gladly place at its disposal the apparatus necessary to make thorough experiments. If you will but censure by your vote the commercial use in cities of dangerous pressures, this action by so eminent an assembly will encourage some fearless coroner to recommend an indictment for manslaughter, and thus put a check upon reckless corporations. Or it would have great effect if you would carefully consider and urge in a resolution the adoption of a law prohibiting the use for any purpose except for electrical executions, of any alternating electrical current with electro-motive force sufficient to produce death in a human being by leakage to earth from the conductors carrying such current; placing upon the police or boards of health the enforcement of the law, and, in case of their neglect, allowing any citizen of the threatened district, power to secure its enforcement.

It will, of course, be said that a powerful lobby would oppose the passage of such a law; true, for the association of high tension and alternating current local companies has already appointed a committee having a member in every State, whose duty it is to raise the alarm on the introduction of any law aimed against

the electrical murder of innocent men. But this same association censured the writer for his zeal in the cause of public safety, and resolved that the alternating current was not dangerous, and that no current under their control should be used for the "ignoble purpose" of painless electrical execution. This resolution caused the State authorities to choose the alternating current as necessarily the best adapted for the purpose, and placed the purchase of their apparatus in my hands.

They also did their best to defeat, in the New York Legislature, the appropriation for the purpose of purchasing the execution apparatus, thinking thereby to nullify the law, and they succeeded in obtaining a unanimous vote—*for* the appropriation, in which even those members opposed to capital punishment joined, rather than to give cause for suspicion.

One can hardly imagine a more ridiculous position than would be occupied by this committee when appearing against this proposed law. Their generous offers of financial aid to overworked legislators would be received with an unanswerable question: "Your President, General Manager, Electrician and other officers and employes have constantly maintained that your current is perfectly safe and harmless. You appear opposing the passage of a law prohibiting none but *deadly* currents. If your statements are true you have no business here, as the law will not affect your interests; if your current is deadly, what attention should be paid to you or your statements."

It may be said that this movement is aimed against a wealthy and powerful corporation which will spend money like water in its defeat. True, money may throw dust in the eyes of the coroner for a time; it may deceive the press concerning facts; it may silence the voices of

mourning relatives, even though they stand high in social and educational circles ; it may procure temporary advantages and rights of way; but it cannot forever permit the electrical slaughter of inoffensive men to go unpunished ; it cannot defeat the passage of a law whose sole object is the *preservation of human life.* The legislator who voted in the negative on this question would sign his political death warrant.

What hardships would such a law inflict and upon whom would the burden fall? It would simply require the reduction of the pressure from 1,000 volts to about 300 ; it would necessitate the use of additional copper conductors weighing 2⅓ times as much as those now in use, thus requiring a small additional investment on the part of corporations who have received the free use of the public streets. It would benefit no particular corporation, since the continuous current can be and is used by all the electric light companies, and there is no foundation patent upon the alternating current.

It is true that some electricians claim that such a law would cause many lighting stations to go out of business ; I doubt this for high-tension continuous current systems with converters or secondary dynamos would prove more economical than the high-tension alternating current system under the average load ; but, even if it did, it would be better to shut them all down and go back to gas and kerosene, rather than keep up this needless sacrifice of life. Others say that newly invented apparatus can be applied which will make the alternating current safe.

This seems an impossibility ; but I shall take the first opportunity to make a thorough test of it. Should it prove efficient, I will gladly admit it and urge its immediate adoption. Even if it is true, the proposed law

would not interfere with the use of a current which could *not* produce death by leakage to earth; but, from the history of the reluctance of corporations to spend money in order to protect life, such a law would be necessary to secure the adoption of the safeguards. In spite of the frightful car stove fatalities, it required a law forbidden its use before the railroads would abandon them in this state.

I cannot close without refering to another danger which may confront us at any moment. On April 24th, a fireman named James Carney was at his work at a fire in the city of Pueblo, Colorado. He touched an insulated wire from the Westinghouse electric light station and was instantly killed. The firemen in our large cities have not yet learned that, in the presence of water, the indoor wires of the alternating current systems can prove fatal. Should such an accident as this occur at a large fire in this city, a panic among the firemen might naturally result and a tremendous sacrifice of life and property teach a terrible lesson. In conclusion, I ask your assistance in the protection of the greatest of human rights—the right to life.

LEGISLATIVE CONTROL OF DANGEROUS ELECTRICAL CURRENTS.

By John Murray Mitchell, of the New York Bar.

New York State has officially recognized that currents of electricity can produce death instantaneously by replacing the hangman's noose with the electrical current as the greatest punishment which can be inflicted upon man for the worst of crimes he may commit.

It has been shown to us to-day what electrical currents may be dangerous and I will not go into that subject, as it is not my province (dealing with the legal side of this issue) to enter into a discussion as to what currents may be dangerous, but only to maintain that such currents as have been or may be proved to be dangerous even where the best insulation has been employed should not be tolerated in any place where it could cause unintentional death or injury to the individual. I use the word unintentional because we all know that death caused in this way is not caused intentionally, excepting in those cases when it has been prescribed by law as a capital punishment.

The history of modern development both scientifically and legally shows the increasing desire of the people for protection to life, limb and health, and the necessity for increasing care in this respect, owing to the vast increase in dangerous manufactures.

Should we compute the vast amount of time and money which has been expended practically, legislatively and legally to guaranty the greatest possible safety to the individual, we would doubtless find that the value of

the time and money so expended would be equal to the total amount of money invested to-day in those enterprises, which require these safeguards for the protection of the individual.

We find, for example, that protection has been thrown about the manufacture of explosives, the sales of poisons, that limitations have been placed on the quantity of oil in storage, that care is taken in the inspection of our buildings, plumbing and drainage, in the quarantine and isolation of infectious diseases, the inspection of steam boilers, keeping the highways clear, and in the general control and official regulation of any business, matter or thing dangerous to life or detrimental to health.

While there is every reason to guard against these dangers which I have enumerated, there is far more reason for the restriction of the use of dangerous electrical currents.

In the manufacture of nitro-glycerine, of gunpowder, or other high explosives, and their commercial use and sale, we are confronted with a different problem from the one which we are now dealing with. These are articles of commercial use which are intended to be, are, and must be dangerous. They are valuable largely in proportion to their explosive power.

Electricity, however, may, for the purposes of this paper, be divided into two different classes without regard to alternating, intermittent or continuous currents, namely currents which are—harmless—deadly.

For all the commercial purposes for which electricity is now used where great power is required, great distances covered, and consequently where great danger may ensue, currents of such low intensity can be used that no one not even the most sickly infant could be

injured thereby. I use the expression "sickly infant," because it is well known that the weaker the individual the thinner and more delicate the cuticle, the more the danger to the individual when subjected to a great electric shock. A vigorous man starting for work in the morning after a healthy night's sleep would be able to withstand a greater nervous shock than he could in the evening after a hard day's work.

The question, therefore, resolves itself to this: Shall we allow a dangerous electrical current to be used when a safe one can do the same work? The spirit of our laws is certainly against such a course.

We should not restrict the uses of electricity within unnecessary limits. It is far too great a benefactor to to us to do this, but we should not allow it to commit unnecessary slaughter.

The extents to which harmless currents can be used and the limit of safety can be readily ascertained. Once found, the limits should never be exceeded.

It is not our purpose now to find what these limits are, but only to show that legal restriction should be placed about every unnecessarily dangerous current.

Granted then that safe currents will do the work necessary to be done by electricity, is it not as negligent to use a dangerous current as it would be if a ferryboat, railroad or other public carrier were to employ unsafe means of transportation or not to adopt safety devices for the protection of passengers or employees when such devices could be obtained?

All Courts have held this to *be negligence* in the common carrier, and in Germany we find in the Criminal Code, Drages Edition, 1885, page 253, Sec. 230, "Any one who has caused the bodily injury of another through

negligence shall be punished by a fine up to 900 Marks, or by imprisonment with labor up to two years."

Our own Penal Code has a somewhat similar Section. Sec. 675, Penal Code.

"A person who willfully and wrongfully commits any act which seriously injures a person or property of another, or which seriously disturbs or endangers the public peace or health, or which openly outrages public decency is guilty of a misdemeanor."

This is not, however, as strong as the German Code, a matter perhaps accounted for when we reflect that the German Government itself is vitally interested in having each citizen protected at home that there may be one man more to answer the call to arms, when the time comes to fight for his fatherland. The continued peace of our country and our marvellous progressiveness make us reckless of our lives. We are always ready to make up a purse for unfortunate sufferers, but we would be better citizens and neighbors should we compel those precautions to be taken which would prevent all loss of life, and render unnecessary these voluntary contributions.

Witness the fearful catastrophe of last week and its ensuing horrors.

England is ahead of us in electrical protection. Her Board of Trade passed provisional orders restricting the use of dangerous currents in 1884.

We find the following provisional orders regarding electrical currents.

(*d*) The standard pressure may be different for different points of any main and with the approval of the local authority for different hours during the periods of supply, but it shall in all cases be within the limits following:

In the case of continuous currents, it shall not be less than thirty volts or more than 200 volts, and in the case of alternating current it shall not be less than fifty volts or more than 100 volts.

(*m*) The difference of potential at corresponding points of the positive and negative conductors used as distributing mains or service lines, shall not at any time exceed 200 volts in the case of continuous currents, and 100 volts in the case of alternating currents (the difference of potential in the case of alternating currents being taken as equal to the constant difference of potential which would in the case of continuous currents produce the same mean effect), and no portion of any such conductor shall be at a potential differing from the earth by more than such quantity.

I will here read an official letter from the Secretary of the English Board of Trade.

Sir—I am directed by the Board of Trade to acknowledge receipt of your letter of the—June applying for a copy of a regulation of this Department restricting the potential of electrical currents employed for power purposes to 350 volts. * * * The cases in which it is proposed to employ electrical power for the propulsion of tram-cars, &c., are dealt with by the Board of Trade according to the special circumstances of each case.

Where the public have access to the line a maximum of 250 volts has been allowed, cautioning notices being issued that it might be dangerous to touch the electrical rail.

Where the line is quite enclosed 300 volts has been authorized, but although this is the maximum that has been sanctioned up to the present time, it is probable that the Board of Trade would be prepared to authorize a difference of potential considerably in excess of this

limit in special cases, and with suitable precautions. I am, Sir, Your obedient servant,

COURTNEY BOYLE.

Any further communication should be addressed to the Assistant Secretary, Railway Department, Board of Trade, London, S. W.; and the following letter and number should be quoted (R 3-99). Telegraph address Board Trade Railway, London. (Railway Department), London, S. W., 19th July, 1887.

The Secretary then read numerous quotations from the law in this country in analagous cases, showing clearly the right of the Legislature to interfere in this matter, and the right of the people to protection of life, limb and body.

As we have no special legislation on this matter here, let us see how far the general principles of our laws give us right to protection in this matter. Teideman, in his "Limitations of Police Powers" states the following; page 17, section 10, under the title of security to life.

The legal guaranty of the protection of life is the highest possession of man. It constitutes the precedent to the enjoyment of all other rights. A man's life includes all that is certain and real in human experience, and since its extinction means the deprivation of all temporal rights, the loss of his own personality, so far as this world is concerned, the cause or motive for its destruction must be very urgent, and of the highest consideration in order to constitute a sufficient justification. If there be any valid ground of justification in the taking of human life, it can only rest upon its necessity as a means of protection to the community against the perpetration of dangerous and terrible crimes by the person whose life is to be forfeited. When a person com-

mits a crime that trespasses upon the rights of his fellow men, he subjects his own rights to the possibility of forfeiture, including even the forfeiture of life itself; and the only consideration independently of constitutional limitations, being, whether the given forfeiture, by exerting a deterrent influence, will furnish the necessary protection against future infringements of the same rights. That is, of course, only a question of expedience addressed to the wise discretion of legislators and does not concern the courts. Except as a punishment for crime, no man's life can be destroyed, not even with his consent.

Under the title of "Security to Limb and Body," section 12, page 22: "This right is as valuable and is as jealously guarded against violation as the primary right to life. Not only does it involve protection against actual bodily injuries, but it also includes an immunity from the successful attempts to inflict bodily injuries, a protection against assaults as well as batteries."

The way we are at present regarding protection against batteries alone.

He then continued: "It may be claimed by those using dangerous currents that they have vested rights which cannot be taken away from them.

In reply hear what Tiedeman says on this: 'Laws Regulating the Use of Personal Property,' section 140, page 499:

"While personal property is protected by constitutional limitations against all unnecessary interference and regulations, it is a standard rule of police power that one must not make such use of his own property as to injure another, and consequently the use and enjoyment of personal property may be subjected to such police regulations as may be necessary to prevent any

threatened injury to the public. The proof of the existence of a threatening injury, and of the appropriateness of the proposed legislation as a remedy, will always justify the interference. Its efficacy is not a matter of judicial consideration. Laws for the regulation of the use of personal property may be varied as to the uses to which such property can be put."

As a general proposition it can hardly be doubted that one has a constitutional right to change the form and condition of his personal property to whatever extent he may think fit, and he may make a business of manufacturing a given article, provided he does not threaten the public with injury, and it may be safely stated that the manufacture of no useful article may be prohibited altogether. As has already been explained, in setting forth the various regulations that may be applied to trades and occupations, the manufacture of the article may be subjected to whatever regulations may be necessary to guard the public against injury in the process of manufacture, or afterwards in wrongful use of it. Those who engage in its manufacture may be required to submit to a certain examination in order to ascertain their fitness for the business, and to take out a license, if the manufacture requires such regulations. And if the danger to the public of a wrongful and illegitimate use of the manufactured article be so imminent as to call for such legislation, as seems very likely to happen with reference to the manufacture of dynamite, nitro-glycerine and other like explosive compounds, the manufacture for the purpose of sale, that is, as a business, may be prohibited to all but a few licensed manufacturers or the agents of the State.

I feel that I cannot do better than to close my remarks with a few quotations from the case of the people ex.

rel. The New York Electric Lines Co. appellant *vs.* Rollin M. Squire as com. 107 N. Y., 603, Jan. 1888.

The companies on appeal claimed that the act compelling them to place their wires underground was obnoxious to the clause of the constitution which forbids the enactment of any law impairing the obligation of contracts.

Chief Justice Ruger wrote the opinion in which he said: Among other things we are of the opinion, for other reasons, that this legislation did not and was not intended to materially impair or restrict the enjoyment of the franchise secured by the relator. The necessity of these acts sprung out of a great evil which in recent times has grown up and afflicted large cities by the multiplication of rival and competing companies, organized for the purpose of distributing light, heat, water, the transportation of freight and passengers and facilitating communication between distant points and which require in their enterprises the occupation not only of the surface and air above the streets, but indefinite space under ground. This evil had become so great that every large city was covered with a network of cables and wires attached to poles, houses, buildings and elevated structures bringing danger, inconvenience and annoyance to the public. * * * * * The necessity of a remedy for these public annoyances had long been felt and it finally culminated in the enactment of the several statutes referred to.

These statutes were obviously intended to restrain and control as far as practicable the evils alluded to, by requiring all such wires to be placed underground in such cities and be subject to the control and supervision of local officers, who could reconcile and harmonize the claims of conflicting companies and obviate in some

degree, the evils which have grown to be almost, if not quite, intolerable to the public. The scheme of these statutes was not to annul or destroy the contract rights of such companies, but to control and regulate their exercise. * * * * * That regulations of the character provided for in these acts are strictly police regulations and such as no chartered right can nullify or override, is too clear to admit of dispute.

The due and orderly arrangement of the various and conflicting claims to privileges in the streets of large cities would seem imperatively to require the creation of neutral boards, with controlling authorities to form a comprehensive plan by which these various enterprises may be harmonized and carried on without detriment to each other and with the regard to the rights of the public.

An elementary writer has said that "the police of a State, in a comprehensive sense embraces a system of internal regulations by which it is sought not only to preserve the public order and to prevent offenses against the State, but also to establish, for the intercourse with citizens, those rules of good manners and neighborhood which are calculated to prevent a conflict of rights and to insure to each the uninterrupted enjoyment of his own, so far as is reasonably consistent with alike enjoyment of rights by others."

Ch. J. Redfield in Sharp *vs.* Rutland and Burlington R. R. Co. (27 Vt. 149) says: "this police power of the State extends to the protection of the lives, limbs, health, comfort and quiet of all persons, and the protection of all property within the State."

The right to exercise this power cannot be alienated, surrendered or abridged by the legislature by any grant, contract, delegation whatsoever, because it constitutes

the exercise of a governmental function without which it would become powerless to protect those rights which it was especially designed to accomplish.

Thus it was held in Presbyterian Church *vs.* City of N. Y. (5 Cow 540) where the corporation had granted with the covenant for quiet enjoyment a piece of land to the plaintiff to be used for church purposes and as a cemetery, that the power of a Municipal Government to pass an ordinance forbidding the use of such premises as a cemetery for the interment of the dead, constituted no breach of covenant.

In conclusion we have seen the dread power of the unnecessarily dangerous electrical current. We all know the menace it is constantly to our lives, our health or our happiness. Let us before more lives are lost stop the increase of this additional risk to life which is as yet so new that we have not learned to realize its full danger.

Our legislatures have the power to act in this matter and in order that we may immediately take steps in the right direction I would suggest a bill should be introduced in our legislatures similar at least to the following which I believe is fair to all and draws no distinction against any kinds of currents excepting *Deadly Currents.*

AN ACT RELATING TO LETHAL ELECTRICAL CURRENTS.

The People of the State of New York, represented in Senate and Assembly, do enact as follows:

Section I. After the passage of this Act, and subject to the exceptions herein provided, it shall not be lawful for any individual or any other corporation, public or private, to generate or use or cause or permit to be generated or used, any electric current with electromotive

force sufficient to produce death in a human being, by leakage to earth from the conductors carrying such current, for any purpose whatsoever, other than the execution of convicted criminals as by law prescribed. Provided, that nothing herein contained shall be deemed to forbid the use in any building of such current generated therein, either for the purpose of scientific experiment, or for other purposes, under reasonable restrictions for the safety of life.

Section II. It shall be the duty of the various boards of health of the various cities, towns and incorporated villages, to enforce the provision of sections one, two and three of this Act. The various boards of health other than the boards of health of the cities of New York, Buffalo, Albany, Yonkers and Brooklyn, created or exercising powers under chapter two hundred and seventy of the laws of eighteen hundred and eighty-five, and the various acts supplemental thereto and amendatory thereof, shall suppress and cause to be removed any apparatus, electric plants, wires, fittings or appurtenances used contrary to the provisions of this Act, and to that end, all boards of health and each of them shall have the power, and it shall be their duty, to take such action as they might by law take for the suppression and removal of nuisances and conditions detrimental to life and health found to exist within the limits of jurisdictions of each board respectively.

The respective boards of health of the City of New York, Buffalo, Albany, Yonkers and Brooklyn shall also have the power, and it shall be their duty, to enforce the provisions of section one, two and three of this Act, under the provisions of the respective acts under which they now exist and are governed, and the various which are, or may be, respectively amendatory of such Acts.

Their respective powers and duties shall be governed by the provisions of the law under which they respectively act or may act regarding any business, matter or thing detrimental to health or danger to life, so far as such provisions may be applicable.

The provisions of this and the preceding section shall be subject to the provisions of sections three and four of this Act.

Section III. All boards of health and each of them shall, in the cases respectively of any apparatus which produces such current, and is used or permitted to be used contrary to the provisions of sections one and two, of this Act, (such apparatus being actually in public use in this State at the date of the passage of this Act), serve upon the person or persons, or corporation or corporations owning or using or causing to be employed or used such apparatus notice in writing, requiring that the use of such apparatus, contrary to the provision of this Act, cease within four calendar months from the date of the service of such notice.

Section IV. No action shall be taken with reference to the removal or suppression of such apparatus used or maintained or caused to be used or maintained contrary to the provisions of this Act, and no action or proceeding shall be instituted with reference to such aparatus before the first day of August, 1890.

Nothing herein shall be construed to prevent any action, prosecution or proceeding being instituted or maintained which may or might by law be instituted or maintained had this Act not been passed.

Section V. Any duty prescribed or annexed, enjoined by section one, two or three of this Act upon any local board of health may be enforced by a mandamus at the instance of the State Board of Health, its President,

Secretary, or any member thereof, or at the instance of any citizen of the city, town, village or municipality in which such apparatus shall be used or operated contrary to the provisions of this Act.

Section VI. All acts and parts of acts inconsistent with this act are hereby repealed.

Section VII. This Act shall take effect immediately.

*THE CORONER'S OFFICE, SHOULD IT BE ABOLISHED?**

By Clark Bell, Esq.

Mr. President and Gentlemen of the Medical Society of the State of New York: In responding to the request of your officers, to address this body upon the important topics of needed reforms in the laws of this State, regarding the office of Coroner, I take great pleasure in laying before you some of the facts and circumstances that have led to this discussion, and to explain the reasons which have led me to appeal to your powerful association for the moral support of the medical profession of the State, in a movement in which that profession has more at stake and will gain as much as the people at large, if the movement meets with that success its importance and merits demand.

At the request of the Medico-Legal Society of New York, I had the honor at its last session to submit to that body my views upon this subject.

The executive committee of that society, at its later and very recent session, appointed Prof. Frank H. Hamilton and myself to lay the subject before your society, and to ask your aid in a movement to effect the necessary changes in the existing laws.

The courtesy of your invitation is due to these circumstances, but your meeting was so close upon the session of our executive committee that I was unable to appear at an earlier hour in your session.

* Read before the Medico-Legal Society, January, 1881.
Read before the State Medical Society, February, 1881.
Raed before the International Medico-Legal Congress, June, 1889.

The whole subject of the office of Coroner, and of procedure under the laws regulating that office, and defining its powers and duties, has been made the subject of discussion, for a few years past, and has awakened public interest, both in England and the various States of the American Union.

The attention of the British public was most pointedly called to it by the admirable address of Mr. Farrer Herschell before the British Science Association, at Liverpool, in October, 1876, and public interest in this country soon followed.

The discussion was practically opened in America by an address made by Mr. Theodore H. Tyndale, of the Boston Bar, before the Department of Health of the American Social Science Association, which appeared shortly after in the Boston *Medical and Surgical Journal*, of March 1, 1877.

This gentleman, with the co-operation of a few others, and the powerful aid of the State Medical Society of Massachusetts, carried that discussion before the State Legislature in a general proposition to make a complete revolution in their system, which was substantially like our own, as inherited from our English ancestry and traditions which had handed down that strange creation of the past, the office of coroner, and what has sometimes been facetiously called "crowner's quest law."

It is not too much to say that mainly through the efforts of Mr. Tyndale, and of such gentlemen as he could bring to his aid, that discussion resulted in the adoption by the Legislature of Massachusetts, of an entirely new system, which can best be explained by the law itself, which passed on May 9, 1877, and which as follows:

AN ACT to Abolish the Office of Coroner, and to Provide for Medical Examinations and Inquest in Cases of Death by Violence.

Be it enacted by the Senate and House of Representatives in General Court assembled, and by the authority of the same as follows:

SECTION 1. The offices of coroner and special coroner are hereby abolished.

SEC. 2. The Governor shall nominate, and by and with advice and consent of the council shall appoint, in the county of Suffolk not exceeding two, and in each county not exceeding the number to be designated by the county commissioners as hereinafter provided, able and discreet men, learned in the science of medicine, to be medical examiners; and every such nomination shall be made at least seven days prior to such appointment.

SEC. 3. In the county of Suffolk, each medical examiner shall receive in full for all services performed by him, an annual salary of three thousand dollars, to be paid quarterly from the treasury of said county; and in other counties they shall receive for a view without an autopsy, four dollars; for a view and autopsy, thirty dollars, and travel at the rate of five cents per mile to and from the place of the view.

SEC. 4. Medical examiners shall hold their offices for the term of seven years from the time of appointment, but shall be liable to removal from office at any time by the Governor and council for cause shown.

SEC. 5. Each Medical examiner, before entering upon the duties of his office, shall be sworn and give bond, with sureties, in the sum of five hundred dollars, to the treasurer of the county, conditioned for the faithful performance of the duties of his office. If a medical examiner neglects or refuses to give bond as herein required, for the period of thirty days after his appointment, the same shall be void, and another shall be made instead thereof.

SEC. 6. The county commissioners in each county shall, as soon as may be after the passage of this act, divide their several counties into suitable districts for the appointment of one medical examiner in each district under this act; and when such division is made, shall at once certify their action to the secretary of the Commonwealth, who shall lay such certificate before the Governor and council. But nothing herein shall prevent any medical examiner from acting as such in any part of his county.

SEC. 7. Medical examiners shall make examinations as hereinafter provided, upon the view of the dead bodies of such persons only as are supposed to have come to their death by violence.

SEC. 8. Whenever a medical examiner has notice that there has been found or is lying within his county, the dead body of a person, who is supposed to have come to his death by violence, he shall forthwith repair to the place where such body lies and take charge of the same; and if on view thereof and personal inquiry into the cause and manner of the death, he deems a further examination necessary, he shall, upon being thereto authorized in writing by the district attorney, mayor, or selectmen of the district, city or town where such body lies, in the presence of two or more discreet persons, whose attendance he may compel by subpœna, if necessary, make an autopsy, and then and there carefully reduce or cause to be reduced to writing every fact and circumstance tending to show the condition of the body, and the cause and manner of death, together with the names and addresses of said witnesses, which record he shall subscribe. Before making such autopsy, he shall call the attention of said witnesses to the position and appearance of the body.

SEC. 9. If upon such view, personal inquiry, or autopsy, he shall be of opinion that the death was caused by violence, he shall at once notify the district attorney and a justice of the district, police, or municipal court for the district or city in which the body lies, or a trial justice, and shall file a duly attested copy of the record of his autopsy in such court, or with such justice, and a like copy with such district attorney; and shall in all cases certify to the clerk or registrar having the custody of the records of births, marriages and deaths in the city or town in which the person deceased came to his death, the name and residence of the person deceased, if known, or a description of his person as full as may be for identification, when the name and residence cannot be ascertained, together with the cause and manner in and by which the person deceased came to his death.

SEC. 10. The court or trial justice shall thereupon hold an inquest, which may be private, in which case any or all persons other than those required to be present by the provisions of this chapter may be excluded from the place where the same is held; and said court or trial justice may also direct the witnesses to be kept separate, so that they cannot converse with each other until they have been examined. The district attorney, or some person designated by him, may attend the inquest and may examine all witnesses. An inquest shall be held in all cases of death by accident upon any railroad, and the district attorney or the attorney-general may direct an inquest to be held in the case of any other casualty from which the death of any person results, if in his opinion such inquest is necessary or expedient.

SEC. 11. The justice or district attorney may issue subpœnas for witnesses, returnable before such court trial justice. The

persons served with such process shall be allowed the same fees, and their attendance may be enforced in the same manner, and they shall be subject to the same penalties as if served with a subpœna in b half of the Commonwealth in a criminal prosecution pending in said court or before said trial justice.

SEC. 12. The presiding justice or trial justice shall, after hearing the testimony, draw up and sign a report in which he shall find and certify when, where, and by what means the person deceased came to his death, his name, if known, and all material circumstances attending his death; and if it appears thas his death resulted wholly or in part from the unlawful act of any other person, he shall further state, if known to him, the name of such person, and of any person whose unlawful act contributed to such death, which report he shall file with the records of the superior court in the county wherein the inquest is held.

SEC. 13. If the justice finds that murder, manslaughter, or an assault has been committed, he may bind over, as in criminal prosecutions, such witnesses as he deems necessary, or as the district attorney may designate, to appear and testify at the court in which an indictment for such offence may be found or presented.

SEC. 14. If a person charged by the report with the commission of any offence is not in custody, the justice shall forthwith issue process for his apprehension, and such process shall be made returnable before any court or magistrate having jurisdiction in the premises, who shall proceed therein in the manner required by law. But nothing herein shall prevent any justice from issuing such process before the finding of such report if it be otherwise lawful to issue the same.

SEC. 15. If the medical examiner reports that the death was not caused by violence, and the district attorney or the attorney-general shall be of a contrary opinion, either the district attorney or the attorney-general may direct an inquest to be held in accordance with the provisions of this act, notwithstanding the report, at which inquest he, or some person designated by him, shall be present and examine all the witnesses.

SEC. 16. The medical examiner may, if he deems it necessary, call a chemist to aid in the examination of the body, or of substances supposed to have caused or contributed to the death, and such chemist shall be entitled to such compensation for his services as the medical examiner certifies to be just and reasonable, the same being audited and allowed in the manner herein provided. The clerk or amanuensis, if any, employed to reduce to writing the results of the medical examination or autopsy, shall be allowed for his services two dollars per day.

SEC. 17. When a medical examiner views or makes an examination of the dead body of a stranger, he shall cause the body to be

decently buried; and if he certifies that he has made careful inquiry, and that to the best of his knowledge and belief the person found dead is a stranger, having no settlement in any city or town of this Commonwealth, his fees with the actual expenses of burial shall be paid from the treasury of the Commonwealth. In all other cases the expenses shall be paid by the city or town, and all other expenses by the county wherein the body is found.

SEC. 18. When services are rendered in bringing to land the dead body of a person found in any of the harbors, rivers, or waters of the Commonwealth, the medical examiner may allow such compensation for said services as he deems reasonable, but this provision shall not entitle any person to compensation for services rendered in searching for such dead body.

SEC. 19. In all cases arising under the provisions of this act, the medical examiner shall take charge of any money or other personal property of the deceased, found upon or near the body, and deliver the same to the person or persons entitled to its custody or possession; but if not claimed by such person within sixty days, then to a public administrator, to be administered upon according to law.

SEC. 20. Any medical examiner who shall fraudulently neglect or refuse to deliver such property to such person within three days after due demand upon him therefor, shall be punished by imprisonment in the jail or house of correction not exceeding two years, or by fine not exceeding five hundred dollars.

SEC. 21. The medical examiner shall return an account of the expenses of each view or autopsy, including his fees, to the county commissioners having jurisdiction over the place where the examination or view is held, or in the county of Suffolk to the auditor of the city of Boston, and shall annex thereto the written authority under which the autopsy was made. Such commissioners or auditor shall audit such accounts, and certify to the treasurer of the Commonwealth, or the treasurer of the county, as the case may be, what items therein are deemed just and reasonable, which shall be paid by said treasurer to the person entitled to receive the same.

SEC. 22. Whenever any sheriff is a party to a suit or proceeding, or otherwise disqualified to act therein, the sheriff or a deputy sheriff of any adjoining county may serve and execute all writs and precepts and perform all duties of such sheriff which he is disqualified to perform, and may serve and execute all such writs and precepts wherein any county, town, parish, religious society, or school district is a party or interested, notwithstanding he is at the time a member of such corporation.

SEC. 23. Whenever a vacancy occurs in the office of sheriff of any county, the senior deputy sheriff in service shall perform all the duties required by law to be performed by the sheriff, until the office of sheriff is filled in the manner required by law, giving bond as

now required by law of sheriffs. And in case of such vacancy, the deputies of the sheriff vacating the office shall continue to have and exercise the power of deputy sheriffs until said office is filled as aforesaid.

SEC. 24. Sections seventy-five, seventy-six and seventy-seven of chapter seventeen, and section one hundred of chapter sixty-three, and section eighteen of chapter one hundred and sixty-three of the General Statutes are hereby amended by substituting for the word "coroner," wherever the same occurs, the words "medical examiner," and for the word "coroners" the words "medical examiners." The second clause of section fifty-two, and sections seventy-four, seventy-eight, seventy-nine and eighty of chapter seventeen of the General Statutes, chapter one hundred and seventy-five of the General Statutes, chapter one hundred and thirteen of the acts of year eighteen hundred and sixty-one, chapter one hundred and seventy-two of the acts of the year eighteen hundred and sixty-two, chapter twenty-eight of the acts of the year eighteen hundred and sixty-four, chapter two hundred and forty-one of the acts of the year eighteen hundred and seventy-one, and chapter one hundred and fifteen of the acts of the year eighteen hundred and seventy-six, and all other acts and parts of acts inconsistent herewith are hereby repealed.

SEC. 25. For the purposes of the appointment and qualification of medical examiners and the action of the county commissioners herein provided for, this act shall take effect upon its passage, and it shall take full effect on the first day of July next.

The radical changes made by this act in Massachusetts were three-fold.

1. The abolition of the office of coroner;

2. The dispensing wholly with juries on the preliminary inquiry in this class of cases as unnecessary; and

3. The adoption of a new system, by which a competent medical man took charge of the medical part of the investigation, and an arrangement for proper officials to take charge of the legal and statutory aspects of such cases, where the death was in any wise proper to be made the subject of a legal inquiry, preliminary to the final trial of the accused, after indictment.

Under this change, Massachusetts appointed medical examiners for the several districts of the State, who took

charge of the new system, and were appointed by the Governor and council; their labors collected by the Medico-Legal Society of Massachusetts (composed wholly, so far as active members were concerned, of these officials), furnish an admirable view of the results of a peculiarly fortunate attempt in a sister State to provide an intelligent and practicable substitute for an acknowledged faulty system, quite as bad and cumbersome as our own.

A comprehensive view of the subject can best be had by examining briefly the leading objectionable features of our present system before we need consider how we can best remedy them.

THE PRESENT STATUTE POWER—DUTIES OF THE CORONER'S OFFICE.

In this State the office of coroner is elective, and held for three years. Coroners are not required to give bonds except when acting as sheriffs, when they may be required to do so.

Four coroners are elected in each county in the State, and in the city of New York the mayor is empowered to designate one to each senatorial district of that city, and assign him to duties therein. Coroners must be residents of the county in which they are elected. They may be removed for cause by the Governor.

They are authorized to arrest those who disturb religious meetings; to take charge of wrecks and wrecked property, to take measures for the preservation thereof; and for its delivery to the proper owners.

They are authorized to investigate into the origin of fires, by an inspection and inquest, with a jury, with proceedings like in most respects the inquests in case of sudden death, with power to arrest, in case there is

found to have been arson, or an attempt at arson, committed.

Whenever a coroner receives notice that any person has been slain, has suddenly died, been dangerously wounded, or found dead under such circumstances as to require an inquisition, the coroner is required to proceed to the place where the body lies, to forthwith summon a jury of not less than nine nor more than fifteen, to appear forthwith to make inquisition concerning such death or wounding.

The coroner swears in the jury, summons witnesses to appear before them, presides at the inquest, swears the witnesses and reduces their testimony to writing, which is subscribed by the witnesses.

It is the duty of the coroner to summon some surgeon or physician to appear as a witness on such inquest.

The jury then inspect the body, hear the testimony, and deliver to the coroner their inquisition in writing, which the law requires shall contain their finding, as to

1. How and in what manner, and when, and where the person so dead or wounded came to his death or was wounded; and

2. Who such person was, and all the circumstances attending such death or wounding; and

3. Who, if any, were guilty of the same, either as principals or accessories, and in what manner.

The finding or inquisition of the jury, with the evidence of the witnesses, the coroner is required to return to the next criminal court of record in the county.

The coroner has power, on the finding of the jury that a crime has been committed, to bind over the witnesses to appear, and to issue warrants for the arrest of accused or suspected persons.

In case of the absence or inability of the coroners to

act, in the city of New York, any alderman or special justice may act in his stead, exercising the same powers and duties as the coroner. Special legislation has been enacted, from time to time, for the city and county of New York, making the practice there different from other parts of the State, and containing many objectionable provisions, mixed with much that is good and commendable.*

The law makes it the duty of coroners to hand over to the treasurer of the county all moneys or valuables found on the bodies of persons on whom inquests have been held, which have not been claimed by the legal representatives within sixty days after the inquest has been held.

The law makes no requirement as to professional knowledge or skill for the incumbent of the office, and does not require the coroner to summon a surgeon or physician who has superior knowledge as to the matters involved, leaving it wholly in the discretion of the coroner as to what surgeon or physician he may call, except in the city of New York, and calls him when summoned simply as a witness and as other witnesses are summoned before the jury.

The Governor has power to remove for misconduct in office on charges.

By analyzing our present system we will observe that if the object of an inquest should be to detect the existence or commission of crime in cases of death by violence, or sudden death, our law, as now constituted, is not well adapted for the purpose.

1. Of what practical good is the verdict of a coroner's jury on an inquest in such a case?

Is it binding, or even influential on the accused, on

* See "Note" at end of Address.

the grand jury, or on the final trial? Everyone knows that it is not.

It is quite true to say that it is a useless and unnecessary expense to summon jurymen in such cases, and in no case can it help the State or the accused on the final trial. which must still occur before conviction.

We cannot be too jealous of the right of trial by jury, but in all cases under existing law two juries must agree before any person can be convicted of crime, without counting the coroner's jury, viz: the grand jury which presents the indictment, and the jury on the trial of the accused after indictment; so that the abolition of the jury on the preliminary inquiry, and a change as to who shall make the inquest in its stead, is not in any sense true an infringement upon the right of trial by jury, which in all cases would exist if the proposed change was made.

It is a useless hardship on the citizen to be liable to be called on a coroner's jury, and the work of investigation can be done much better and easier by competent medical officials to investigate the medical questions involved, holding them responsible for the work, carefully providing for a thorough and practical examination; and by proper judicial officers, that part of the business which requires legal proceedings, adjudication or decision as to whether a crime has been committed.

There can probably be no more startling evidence of the utter uselessness of a coroner's jury, than the statement of this fact: That whatever may be the verdict in a given case, the subsequent indictment, trial, and entire judicial proceeding is absolutely independent of it, and proceeds as if the coroner's jury had never acted at all.

The object of an inquiry when a sudden death has oc-

curred, should be to inquire into the cause of the death. Did it proceed from natural causes? If not, from what cause, and has a crime been committed? That is, and should be, the full scope of such an inquiry.

That such an investigation is proper, preliminary to a formal accusation is certain, because it determines, or should do so, that no trial is necessary, if the death is not by violence or is due to natural causes; and it is due to all that an intelligent and careful scrutiny should be given by competent persons, in all cases, whether doubtful or not at first.

Whether death has resulted from other than natural causes is usually a matter to be determined by a careful, competent, and thorough medical examination.

Whether a crime has been committed is not a medical question; it is rather a legal one.

What is, therefore, most needed, at once, in all such cases, is a formal and careful medical examination, by a perfectly competent medical man, upon the first inquiry, and to decide upon the facts by a careful scientific inquiry as to the cause of death.

The Massachusetts system provides an officer for that duty, and requires him by the terms of the law to be "an able and discreet man, learned in the science of medicine," to be even eligible to hold the office.

The law compels this learned and competent officer to examine the body; and if on such examination, and after personal inquiry into the cause and manner of the death, he deems further examination necessary, he shall, on the written authorization of the district attorney, or other competent judicial authority, proceed in a specified careful way to make an autopsy in the presence of at least two discreet persons, and then *and there to carefully reduce to writing every fact and circumstance tend-*

ing to show the condition of the body and the cause and manner of death, together with the names and addresses of said witnesses, which he shall subscribe, and for which he is, of course, officially and professionally responsible.

If on this inquiry this officer, after such an examination, autopsy, and certificate, shall be of the opinion that the death was caused by violence, he is commanded to notify the competent judicial authority, and file his report and certificate with the court, who shall thereupon proceed to investigate whether a crime has been committed—which is a legal or judicial question—under certain provisions of the law, and under due legal forms, with all the force and effect of a judicial proceeding.

Under our present system the coroner can call in any medical man, whether he is skilled in the examination required or not, in most counties of the State.

What is the necessity or value of a jury's opinion, or verdict, upon the medical question as to whether the death was by violence or from natural causes; or, on the second question, as to whether a crime has been committed, which is a judicial question; and how much more valuable would be the carefully-prepared written statement and autopsy of the competent medical man, as a permanent record in the case; or the finding of the competent judicial officer, upon evidence, in case and where it is held that a crime has been, or even probably has been committed, with the careful record of the facts and circumstances attending the death?

The opinion, report and autopsy of the medical man upon the medical question is valuable throughout the whole case, and in all subsequent phases of it.

The report, evidence and finding of the judicial officer, as to whether a crime has been committed, is also of

value, but the verdict of a coroner's jury on either question, under our existing system, seems practically absurd, and experience has shown it to be both meaningless and valueless. Then why continue it?

There is no race of men more wedded to their traditions, past, and precedents than the Anglo-Saxon and their descendants. We inherit that peculiar trait of English character which makes us cling to the things and ways our fathers had and did before us. We are the last to see the absurdity of an old thing, gray with age, though quick to find it in a new.

With the venerableness of the office of coroner we have little to do, but it is a source of absolute wonder how such an absurd and valueless office for the detection of crime should have been continued through all these centuries.

So far as his duties in case of acting in the place of the sheriff, or against the sheriff, or in regard to matters of wrecks, deodands, and forfeitures to the crown, which were his ancient duties, these are now obsolete, except in regard to the sheriff, and powers in certain other cases which would be wisely placed in some one officer in a county, but beyond that, there is no use or necessity for such an officer as the statute makes our present coroner, and the progress of events and civilization demands for us a change in this part of our system.

Before proceeding to examine into the system and practice of other countries, it might be well to ask you to look at some of the fatal defects in our own.

1. There is no existing provision compelling a careful and proper medical examination and autopsy, the absence of which, in doubtful and difficult cases, might result, and frequently does, in the entire defeat of justice.

If an autopsy is to be taken at all, in a given case, it is usually of great importance that it be promptly done, and by competent medical authority.

It would not be enough that our system provided for an autopsy. It should in all cases, when the circumstances seem to require, compel it, and provide how it should be made, and what it should certify.

2. Again, any citizen is now eligible to the office of coroner, and no precaution or safeguard is had under the law to secure an officer who is either competent to conduct the medical examination or the legal inquiry.

Most lamentable cases of ignorance of this official fill our books, and occur on all hands in practice.

The history of criminal jurisprudence in our country, as well as of England, is full of cases where most serious consequences result from the inexperience and ignorance of incompetent persons taking charge of the medical investigation as to the cause of death, or the later legal inquiry whether on the shown medical facts a crime has been committed.

In extremely doubtful cases where crime has been committed, as, for example, by poisoning, especially where very difficult to positively detect, the present system of inquest would, or might, actually prevent detection and subsequent conviction, by not having the proper medical examination and autopsy, which, if properly taken would have insured detection.

The heart, lungs, stomach, intestines, and liver frequently are decisive witnesses in such cases; and how many times would such an examination and autopsy have prevented the terrible consequences of an innocent person, accused of poisoning by suspicious or jealous relations or enemies, being placed on trial, and, as

we know, sometimes actually convicted of a crime they never committed or contemplated.

These delicate, difficult, and doubtful cases, where nothing but the highest character of scientific knowledge and critical examination at the time of the occurrence would detect the crime, are of course lost, and the guilty escape; and these cases the books do not show, because the real facts and circumstances do not appear, and the real record is never made.

3. The existing statute, in failing to secure a competent officer to conduct the medical examination, thus shown to be indispensably necessary in every case where a crime has been committed, or even to determine whether the death is probably from natural causes, is as faulty in making no provision for a competent person to conduct a necessary legal inquiry, as to whether a crime has been committed, in those cases where the death is clearly from violence, and not from natural causes.

The existing statute throws this inquiry upon a jury, who, in the nature of things, cannot determine it judicially, and who can only conduct an inquiry upon competent evidence, with an official presiding who is not required by the law to be competent to conduct such an inquiry.

And we have gone on thus for centuries, taking the verdict of coroners' juries in these cases—absolutely valueless judicial farces, oftentimes attended with lamentable and fatal results.

In the case of William Simmons, charged with homicide, the coroner's jury, on a full hearing, pronounced the killing justifiable homicide, the prisoner having been assaulted with a deadly weapon, and having defended

himself with a knife, killing his assailant while in a death struggle on the floor.

The court, however, on the trial, held against the use of a knife, even in such an extremity; and Simmons was convicted. But the Governor pardoned on the merits, though the sentence was nearly out. The verdict of the coroner's jury had not the slightest legal force or effect.

Provisions should be made, therefore, in the law regulating such investigations, for a proper judicial proceeding before a competent court and officer, which should be a proper, legal and necessary step toward the trial itself.

This is secured under the new Massachusetts law by directing the proceeding to be taken before a justice of the district, police, or municipal court in which the body lies, or a trial justice, which is conducted for the State by the district attorney of the county, or by some person designated by that officer.

4. If the existing law could be amended by dispensing with a jury in such cases; providing for a competent medical officer to conduct the preliminary examination under distinct methods, that would secure a record of these necessary medical facts, to answer fully the medical inquiry, with a proper provision for examination before a competent judicial tribunal in case the medical preliminary examination made that necessary, or probably so; it would be a great gain to our present system, even if we called the medical officer by the old name of coroner. But there are so many absurdities under that system that it would doubtless be wiser, if it was decided to make a change, to abolish the office of coroner altogether and provide for the new system by appropriate legislation, attaching those duties in respect to sheriffs,

wrecks, etc , to some other officer, as, for example, the district attorney in counties, or the county treasurer; or perhaps for constitutional reasons to leave the coroner to discharge them when occasion arose.

It may be well in such an inquiry to examine the laws of other countries and their practice under them.

FRANCE.

In France two distinct and separate officers take charge of all such investigations.

The legal officer, the *procureur du roi*, or, as he is now called, the procurer or attorney of the republic, analagous in some respects to our district attorney, proceeds to the place where the dead body is found, makes the investigation, summons and examines witnesses, and reduces their evidence to writing, which is subscribed.

He has large power granted him as to seizing articles or papers, if connected with crime, and can restrain suspected persons from leaving the premises or the neighborhood. He has power to use experts or clever detectives, which is a part of the French system for the detection or discovery of crime. He is responsible for the case as a legal inquiry, and for all the legal questions involved.

The medical side is in charge of a medical officer, chosen for his superior and excellent medical knowledge, with almost equal powers, supreme as to the medical examination, inquiry, and all medical questions involved; and this officer—and sometimes two—is connected also with the subsequent prosecution of the criminal when a crime has been committed, or the legal officer decides that one has been committed.

The admirable writings of Emile Gaboriau well describe the powers, duties, and responsibilities of these

various officers, and the excellent working of what may be called the French system, in such works as "File No. 118," "Monsieur Le Coq," "The Widow Lerouge," and other admirable works from his prolific pen.

I have thought it would interest the thoughtful student of this subject to give a *resumé* of the laws of France recently adopted upon this subject, in which I have received valuable assistance from my brother and colleague, Mr. Fred. R. Coudert, of our Bar.

The investigation of crimes, such as murder, and the preliminary investigation to establish the culpability of the murderer in case of violent death, in France, is one of the duties of the attorney of the Republic.

The duties and powers of the attorney of the Republic are defined in the Code of Instruction in Criminal Proceeding, Book I., Chapter IV., Section II., Articles 29 to 47, included. Among these articles, the following have especial reference to the investigation and proof of crime and the arrest of the guilty persons.

"ART. 32. In all cases of *flagrante delicto*, when the act shall be of such a nature as to entail punishment of a degrading or ignominious character, the attorney of the republic shall himself proceed to the spot, without any delay, for the purpose of drawing the official reports which may be necessary to establish the evidence of crime, its condition, that of the surroundings, and to receive the declarations of the persons who shall have witnessed the deed, or who shall be able to give information thereon, etc.

"ART. 33. The attorney of the republic may also, in the case of the preceding article, summon such of the relatives, servants, or neighbors, as are able to give information upon the fact. He shall receive their statements, which they shall sign. The statements made in conformity with the present and the preceding article, must be signed by the parties, and in case of refusal, mention of it is to be made.

"ART. 36. The attorney of the republic shall seize the weapons, and all that shall appear to have been used, or have been intended to have been used for the commission of the crime, or the offence, as well as all that may have resulted therefrom, and, in fact, all that may throw light on the subject; he shall ask the accused party

to account for the things so seized, which shall be shown to him; he will draw up an official report, which shall be signed by the accused, or mention shall be made of his refusal to do so.

"ART. 40. The attorney of the republic in such a case of *flagrante delicto*, and when the crime shall be of such a nature as to entail a degrading or ignominious punishment, shall arrest the accused persons present, against whom strong presumption may be entertained.

"If the accused is not present the attorney of the republic shall issue an order to compel him to appear. This order is called 'Mandat d'amener.' The information alone does not constitute sufficient presumption to authorize the issuance of such a warrant against a domicled person.

"The attorney of the republic shall at once examine the accused brought before him.

"ART. 42. The official reports of the attorney of the republic, in pursuance of the preceding articles, shall be made and drawn up in the presence, and shall be signed by the commissary of police of the 'Commune' in which the crime or offence shall have been committed, or the mayor or the assistant mayor, or by two citizens domiciled in the same 'Commune.'"

"Nevertheless, the attorney of the republic may draw up the official reports without the assistance of witnesses when there is no possibility of obtaining them at once.

"Each sheet of the official report shall be signed by the attorney of the republic, and by the persons who shall have been present, in case of their refusal or inability to sign, mention shall be made thereof.

"ART. 43. The attorney of the republic shall be accompanied, if necessary, by one or more persons who may be presumed by their trade or profession to be capable of appreciating the nature and the circumstances of the crime or offence.

"ART. 44. If a violent death shall have taken place, or a death from unknown causes, or under suspicious circumstances, the attorney of the republic shall be assisted by one or two physicians, who shall make their report as to the cause of the death, and the condition of the corpse.

"The persons who shall be summoned in the cases provided by the present and the foregoing articles, shall before the attorney of the republic be sworn to make their report and give their opinion according to honor and conscience.

"ART. 45. The attorney of the republic shall, without delay, transmit to the examining magistrate the official reports, instruments, documents, and weapons drawn up or seized in pursuance of the preceding articles, to be proceeded with as set forth in the chapter entitled, 'Of Examining Magistrates;' and in the meanwhile

the accused shall remain at the disposal of the judicial authorities, so that he can at any time be arrested.

"ART. 47. Except in the cases provided for in articles 32 and 46, the attorney of the republic, upon being notified by information or otherwise, that a crime or an offence has been committed in his district, or that a person charged with the commission thereof is in his district, shall call upon the examining magistrate, to order an inquiry, and even, if necessary, proceed to the spot in order to draw up all the necessary official reports, as will be found described in the chapter entitled, 'Of Examining Magistrates.'"

When the papers have been transmitted by the attorney of the republic to the examining magistrate, the latter holds an investigation. His powers and duties are defined in the code of Examinations in Criminal Proceeding, Book F, Chapter VI., Articles 55 to 90.

The following articles in particular explain the mode of proceeding in case of murder.

"ART. 59. In all cases reported as *flagrante delicto*, the examining magistrate may directly, and of his own authority, perform all the acts attributed to the attorney of the republic, by observing the rules defined in the chapter 'Of Attorneys of the Republic and their Substitutes.' The examining magistrate may require the presence of the attorney of the republic, without any delay, however, as to the operations defined in said chapter.

"ART. 61. Except in cases of *flagrante delicto*, the examining magistrates shall make no investigations, and take no proceedings without informing the attorney of the republic thereof, who may, moreover, require this information to be furnished him at all stages of the investigation, subject to the obligation of returning the papers within twenty-four hours.

"The examining magistrate, however, if there be occasion for it, may issue the warrant to produce the person, and even the warrant of commitment, without its being necessary that they have been preceded by the legal conclusions of the attorney of the republic.

"ART. 62. Where the examining magistrate proceeds to the spot, he shall always be accompanied by the attorney of the republic, and the registrar of the tribunal.

"ART. 71. The examining magistrate shall summon before him such persons as shall have been indicated by information, by complaint, by the attorney of the republic, or otherwise, as having knowledge of the crime or offence, or of the circumstances.

"ART. 87. The examining magistrate shall, if required to do so, and even of his own accord, proceed to the domicile of the party

charged with the crime or the offence, in order to make a scarch for the papers, effects, and generally, all articles which shall be deemed necessary for arriving at the truth.

"ART. 88. The examining magistrate may likewise proceed to such other places as it is likely that articles like those mentioned in the preceding section shall have been concealed."

Articles 91 to 112 regulate the rights of the examining magistrate to issue orders to apprehend (*comparution*), orders of commitment (*depot*), orders to produce the person (*d'amener*), and orders of arrest (*d'arrét*).

Articles 113 to 126 regulate provisional release and release on bail.

Articles 127 to 136 regulate the orders to be issued by the examining magistrate when the investigation is terminated.

"ART. 133. If the examining magistrate considers the deed as one entailing punishment of a degrading or ignominious character, and that the evidence against the accused is sufficiently established, he will order that the papers in the proceedings, the official report establishing the nature of the offence, and a list of exhibits, shall be transmitted without delay by the attorney-general of the 'Cour d'Appel,' in order that they may be used as specified in the chapter 'On Indictments.'

"The exhibits shall remain with the court where the examinations took place, with the exceptions set out in articles 228 and 291.'

The indictment is regulated in Book, II., Title II., Chapter I., Articles 217 to 250.

The trial before the Assize Court is regulated by Book II., Title II., Chapters II., III. and IV., Articles 251 to 380.

And the jury is formed and works under the same code, book, and title, Chapter V., Articles 381 to 406.

GERMANY.

The present law of the German Empire, adopted October 1, 1879, being the code of criminal procedure (*Straf-Process Ordnung*) regulates proceedings for this class of cases for all Germany to-day.

A judicial officer called the district attorney (*staats-anwalt*) has charge of these proceedings. He is clothed with powers as full as those of our district attorney, of a committing magistrate, or a police justice. He is entitled to ask information from all public authorities, who are bound to assist him in his official duties. The police are his subordinates, and under his control in all respects in the investigation of crime.

The police authorities are also bound on their own account to investigate supposed crimes, and report to this officer, especially in all cases of sudden death or death by violence ; and in these cases no interment of the body is allowed until after the consent has been obtained of the district attorney or the competent court.

There is no coroner in Germany, nor any analagous officer ; nor any jury on the preliminary examination.

There are judicial district physicians or surgeons regularly appointed who are selected for their special training and fitness for the duty. They are summoned by the district attorney, or by the police authorities, and examine the body, make the autopsy, and conduct in all respects the medical examination.

The code prescribes a form or set of special rules for the conduct of the judicial examination of the body (*gerichtliche leichenschau*), which occur under a special order of the court ; and the code also provides how and in what cases and manner experts may be called in by the district attorney or the police magistrate.

The grand jury and its indictments as in our system, is unknown in Germany.

If the district attorney, after the preliminary examination and inquisition has been made, and the evidence and medical examination and report made, believes that a crime has been committed, or that probable cause ex-

ists for such a belief, he brings on the trial by a motion to the competent court, and if the court, on such motion, after hearing the case, believes that sufficient reasons are presented, it orders a preliminary judicial investigation (*gerichtliche voruntersuchung*), which is conducted before a justice, with the assistance of the district attorney, at which the accused is heard, and is represented by counsel if he desires. The result of that preliminary investigation usually determines the matter. If the district attorney desires to press it, he moves it on; if not, the case is usually dropped.

SCOTLAND.

Scotland has gone off from the English system, and an officer analagous to the French *procureur du roi*, called a procurator fiscal, performs the duties of the preliminary inquiry investigation, much as if our district attorney was charged with the preliminary inquiry, with large powers of taking testimony and making arrests, but acting without a jury.

TURKEY.

In Turkey, if a death occurs in a town where there is a foreign consul, the deceased not being a native of or citizen of Turkey, the consul or legation of the nationality of the deceased takes charge of the investigation, in such manner and form as each consul chooses, acting for his own country.

If it is a citizen that dies, there is no investigation, nor any officer even analagous to our coroner.

If the case presents aspects which justify an official or other interference, the police take it in charge. They conduct the inquiry, and investigation as a judicial proceeding, calling witnesses, experts, and medical aid as they see fit.

These deaths are regarded more lightly in Turkey that in most European countries, and nothing resembling our inquest is known.

GREECE.

In Greece the system in force is almost identical with that of France.

An officer analagous to the French *procureur du roi* takes charge of the legal side and conducts the proceedings.

A medical officer takes exclusive charge of the medical question and examination, and detectives or experts trained to the business are subject to the call of the prosecuting officer.

RUSSIA.

The whole proceeding is in Russia placed in the charge of a judicial officer known as Judge of Instruction. He is an officer of the crown, appointed in and for each district by the central governor, or council of the province or state.

He repairs to the place and takes charge of the body of the deceased. Has power to seize all papers and correspondence, and put seals on the private papers and boxes. He summons and examines all witnesses, takes the evidence, reduces it to writing, calls experts, and examines and directs their action. He is clothed with large powers, and may arrest, and even place in close confinement an accused or suspected person.

He stands for the state as an accuser, and yet is bound in honor and conscience to act as a judge, and to act impartially for the accused.

The medical questions and the medical side of the case are in charge of a physician or surgeon who is a sworn crown officer, with a salary. He acts in conjunction with the Judge of Instruction, but independ-

ent of him. He is bound to make an autopsy, if any suspicion or doubt exists as to crime.

He conducts the autopsy, and carefully reduces his examination and conclusions to writing, which he furnishes to the court, and also to the central medical council or board, held in every province at the seat of the government, who have a power of review of the same, in case doubt exists.

Since the year 1864, in each village of Russia, certain citizens are designated by the mayor of the village, whose duty it is to attend such cases at the summons of the *Juge d'Instruction*, aid him in the investigation by their inquiries, give evidence of the known facts, search for evidence in doubtful cases, and help so far as they can in the investigation.

They are not, however, clothed with any powers. They make no finding nor report, but are required by law to attend, and stand as a sort of watch to the proceedings, aiding the officials of the crown in the discharge of their duties.

DENMARK.

In Denmark the State is divided into several large districts, some seventeen in number. These are subdivided into smaller districts, or counties, in each of which a judicial officer, analagous to our county judge, is appointed, who has power over such cases.

He acts without a jury, possesses the powers of a coroner and police magistrate combined, is both prosecuting officer and judge, and if the cause proceeds to trial finally, it is before this officer.

No counsel is allowed on the preliminary investigation, even if a person is accused. This officer can

make arrests, but the accused can only be held twenty-four hours without a hearing.

In the seventeen larger districts there is a judicial officer who has superior jurisdiction over the county officer, to whom the latter reports all the proceedings.

If the district judge orders the trial to proceed, it goes on before the county judge; if not, it is usually abandoned.

In each county is also a medical officer, appointed by the crown, with a salary, who examines the medical questions on the call of the county judge, conducts the autopsy and scientific examination, reports in writing to the county judge, and also to the central bureau of eminent physicians, called the Royal Bureau of Health. This bureau, in each district, reviews his action, and in doubtful cases take action, as in cases of poisoning or insanity, their report being made to the county judge, in writing, is usually decisive, of any issue they pass upon.

The county medical officer is first consulted on all medical questions, and is supreme except as to the review of his action by the royal health bureau.

The district officer frames the indictment, if one is found, and orders the trial to proceed before the county judge. An appeal lies first to the superior court in each district; then to the supreme court of Denmark.

In reaching a conclusion satisfactory to ourselves it may not be uninteresting to pursue our inquiry into the

EXPENSES OF THE PRESENT SYSTEM, AND ECONOMY OF THE CHANGE.

If it be true that the verdict of a coroner's jury has no practical value, in determining the guilt or innocence of an accused person, it may well be said that the cost of

summoning the jury, and the fees and expenses of the jurymen would, of course, be wholly saved by its abolition.

In the inquiry before the legislative committee of Massachusetts, a carefully prepared statement was made as to the expenses of the then existing system and that under the one finally adopted, and it was clearly shown that the saving in expense to the State, not taking into account the time of the jurymen, was fully thirty-three per cent. in favor of the proposed change.

Mr. Tyndale, in answer to my inquiry as to the saving to the State of Massachusetts on the trials made there, under the change, reports that he had gathered facts enabling him to make a careful statement of the expenses attending coroner's inquests throughout the State of Massachusetts under the former law, and also the workings of the new system, and that the saving to the Commonwealth in jurors' fees, constables' fees for summoning jurors, amounts to full one-third of the former expenses, while the results of the scientific inquiries now made are of great value, as the testimony is secured exactly and early in the proceedings before time and decay have made it difficult or impossible to obtain it; that where the State of Massachusetts formerly paid about twenty thousand dollars annually for scientific work under the old system, with which absolutely nothing was done—the money being virtually thrown away—it now gets its first important steps taken in criminal investigations, attended to by thoroughly competent men for about one-third less than before.

There can be no higher authority on this inquiry in that State than Mr. Tyndale, nor one who has more reliable sources of information; but on the occasion of my recent visit to Boston, as a delegate from the Medico-

Legal Society of New York, to the annual meeting of the Massachusetts Medico-Legal Society, I took the opinion of Dr. Alfred Hosmer, then the president of the society, and later, Dr. Robert Amory, now occupying that chair, both medical examiners under the new law, and thoroughly familiar with the statistics upon this question, and both place the economy to the State in the actual saving of expenditure at thirty-three and one-third per cent. in favor of the new system.

There is one other consideration having an important bearing upon this branch of the inquiry that was not considered by these gentlemen, or embraced in their estimate of saving. It is this: Under the old system, if scientific evidence was called by the State, autopsies made, or chemical evidence taken on the preliminary inquiry, it was of no value whatever on the final trial. If now taken, as indeed it must be, if necessary, it is of value; it has its direct relation to the case, is an important and valuable part of its record and history; and in these cases, when medical experts are called, the saving under the new system would be something great in any case, and in all doubtful and obscure ones.

It may, I think, therefore be affirmed in this discussion, without fear of contradiction, that a change in our law would be a very great economy to the State in both these important respects.

There have been some suggestions as to a chief officer and subordinates, which I regret to have heard made. They come from a too superficial view of the subject.

In the nature of things the officers throughout the State must needs be county officers; and they should have, of course, co-ordinate powers.

If in our change we do not provide for entirely com-

petent and trained men for the work we had better not change.

An examiner-in-chief who should have control for the State, with assistants for the counties, would be simply an incongruity, and a failure.

It needs the same competent person to provide for all the work being well done, in one district that it does in in another.

There is no country in the world that attempts such a plan. Co-ordinate powers to the officers, executing those within defined districts, would be the only successful plan.

Again, let it not be forgotten that under the Massachusetts law the medical examiner takes no part in the judicial branch of the inquiry. That is placed in well-defined judicial hands.

It would be as faulty to place the legal side of such a proceeding in the hands of a merely medical man, as it would to provide for a lawyer to make an autopsy, or to certify whether the death was probably due to natural causes.

A competent physician would, even under our present law, be a much better coroner than the ordinary officer, because if trained in the branch of medical knowledge involved, he would be more competent to discharge the duties involved in that part of the inquiry. But he would not be as competent as even our present coroner to conduct the other duties of that office, by reason of his education, which unfits him for judicial duties.

The reforms needed in our system may be summarized as follows:

1. The abolition of the coroner's jury, or of any jury on the preliminary investigation as useless, expensive, and not calculated to discover or detect the commission

of crime, if one has been committed, or the best method of determining whether the death was by violence or from natural causes.

2. Such a change of our law, as shall place the examination of the preliminary medical inquiry, whether the death is due to natural causes or to violence, in charge of a medical man of special knowledge on such subjects, who shall be obliged to conduct an autopsy, with power to call witnesses, and to make scientific record of the facts and circumstances of the case substantially like that provided under the law of Massachusetts.

3. The proper method of conducting the legal inquiry as to whether a crime has been committed, if the report and examination of the medical examiners make it necessary, and defining the proper officer to conduct, and the tribunal to hear and decide it.

The district attorney of the county, or some person to be designated by him, would probably be a perfectly safe provision in our State.

Courts of justices of the peace in various counties, and of the police justices in the cities, would be the proper judicial tribunals under our system. As constituted, they are competent to take charge of such proceedings, which should, of course, be a legitimate preliminary step for the discovery and punishment of crime in all cases.

4. If a medical man was not selected to take charge of the preliminary inquiry, as in Massachusetts, and the whole inquiry placed, as in France, in charge of a legal officer who should be of the degree of counselor at law; then, that competent medical men, selected by reason of their training and skill in this class of cases, should be designated by competent authority, such as the county judge in counties, and the chief justices of the supreme,

superior and common pleas courts in cities, of sufficient number to do the work, acting upon a salary, and sworn, as public officers, to act upon their best judgment, honor, and conscience in such cases, when called by the district attorney or other officer conducting the legal proceedings.

For practical work I believe the better change, considering our system, would be the adoption of the Massachusetts plan. It has been tried there, it works well, it could easier be carried into effect, would, I think, give greater public satisfaction, and be of greater public good.

The important obstacle is the question of how the medical examiners should be selected.

Under our system how could we so frame the law as to have these officers selected by reason of their professional fitness for the place, and without reference to political considerations?

If thought dangerous to make the office elective here, it would certainly be safe to have them appointed, either by the governor, by and with the consent of the senate, or by the county judges in the counties, and the chief justice of the common pleas in this city, an office analagous to that of county judges in counties.

If the appointments were made by the governor and senate, there might be danger of political considerations influencing the appointments, rather than the peculiar fitness of the man for the office, which, perhaps, might be guarded against in the law itself to some extent.

The success of the Massachusetts plan has been due to the care the governor has taken there to select men for their peculiar fitness for the office, and wholly ignoring the political affinities of the men selected.

Governor Long, of Massachusetts, is entitled to the highest praise for his action in this respect, and his predecessor also; and if we could be sure of similar action by our executive, I know of no safer way than to allow the executive to appoint; but, with past experience, it would doubtless be safer to give the appointment to the county judge of counties, and provide in the law that they shall be made without regard to political considerations, and only by reason of the competency of the officer, by his education and training for the office.

THE CONSTITUTIONAL QUESTION.

There are those who seek to avoid the discussion of this question upon its merits, on the ground that the coroner is an officer created by the constitution, and cannot, therefore, be abolished.

There are two ways of regarding this objection:

1. If it were true that the defects of our present system could only be remedied by an amendment to the constitution, it would be a perfectly proper subject for discussion to inquire whether the public good would be subserved by such a change, and then take the proper course to change the constitution by amendment.

Our duty now is to inquire whether a change is desirable, and to carefully investigate the subject on its merits; to examine how the Massachusetts system works; to examine such proceedings in other countries; and to determine what is best for us in this State to do in such matters. The people will never find difficulties they cannot surmount, if they decide to change, in any question, even if it is constitutional.

2. To my mind, however, no amendment to the constitution is necessary to effect the proposed reforms.

such as are given by the legislature in laws enacted from time to time upon the subject.

It is absolutely necessary that some officer should be designated to act as sheriff in cases where the sheriff was incompetent to act, by reason of being a party.

The provision as to wrecks, investigating into the cause and origin of fires are good provisions, and the coroner's office might retain to take charge of these when occasion arose.

Legislation which took from the coroner all control of, or connection with cases of death by violence, or sudden death, providing new officers and methods, could be passed without conflicting with the constitution, by a simple repeal of certain existing statutes, and the passage of acts conferring these powers upon officers to be appointed by competent authority.

The abolition of the coroner's jury is certainly not in conflict with the constitution.

The creation of an officer charged with defined duties and powers, in matters of this kind is certainly not in conflict with the constitution.

The power of the legislature to define and extend the powers and duties of coroners involves the right to diminish their powers and duties as well as to enlarge them: and if the whole business of inquests and conducting investigations in the class of cases now under consideration was taken by legislstion from the present coroner and placed either under such a system as that adopted by Massachusetts, or that in vogue in France or Germany, the coroner's office would still exist; but with restricted powers; and the constitution would be inviolate. The opinions of the Supreme Court of Massachusetts upon analagous questions, are, I think, conclusive

While the constitution provides for the election of four coroners in each county of the State by the people, the powers, duties, and all the authority of those officers are upon the legal questions involved. [Vol. 117 Mass. Rep., p. 603 ; 1 Gray Rep. p. 1.]

The special legislation for the city and county of New York is so important for the proper understanding of the subject that the various laws are hereby collected and given for general information of the subject.

The general statutes for the State on the subject of the office of coroner are as follows:

Title VII, Article First, Chapter II., Page 1039, Banks & Bros.' Sixth Edition Revised Statutes.

"SECTION 1. Whenever any coroner shall receive notice that any person has been slain, or has suddenly died, or has been dangerously wounded, or has been found dead under such circumstances as to require an inquisition, it shall be the duty of such coroner to go to the place where such person shall be, and forthwith to summon not less than nine nor more than fifteen persons, qualified by law to serve as jurors, and not exempt from such service, to appear before such coroner forthwith, at such place as he shall appoint, to make inquisition concerning such death or wounding. [Laws of 1847, *ch.* 118, § 1.]

"SEC. 2. Any justice of the peace in each of the several towns and cities of this State, is hereby authorized and empowered, in case the attendance of a coroner cannot be procured within twelve hours after the discovery of a dead body, upon which an inquest is now by law required to be held, to hold an inquest thereon, in the same manner and with the like force and effect as coroners.

"SEC. 3. In all cases in which the cause of a death is not apparent, it shall be the duty of the justice to associate with himself a regularly licensed physician, to make a suitable examination for the discovery of said cause.

"SEC. 4. Each and every justice of the peace who shall hold inquests by virtue of this act, shall receive the same fees as are now allowed by law to coroners.

"SEC. 5. Whenever six or more of the jurors shall appear, they shall be sworn by the coroner to inquire how and in what manner,

and when and where, such person came to his death or was wounded, as the case may be, and who such person was, and into all the circumstances attending such death or wounding; and to make a true inquisition, according to the evidence offered to them, or arising from the inspection of the body. [*As modified by* § 2 *of ch.* 118, of Laws of 1847.]

"SEC. 6. The coroner shall have power to issue subpœnas for witnesses, returnable either forthwith or at such time and place as he shall appoint therein; and it shall be the duty of the coroner to cause some surgeon or physician to be subpœnaed to appear as a witness upon the taking of such inquest.

"SEC. 7. Every person served with any such subpœna shall be liable to the same penalties for disobedience thereto, and his attendance may be enforced in like manner, as upon subpœnas issued in justices' courts.

"SEC. 8. The jury, upon the inspection of the body of the person dead or wounded, and after hearing the testimony, shall deliver to the coroner their inquisition in writing, to be signed by them, in which they shall find and certify how and in what manner, and when and where, the person so dead or wounded came to his death or was wounded, as the case may be, and who such person was; and all the circumstances attending such death or wounding, and who were guilty thereof, either as principal or accessory, and in what manner.

"SEC. 9. If the jury find that any murder, manslaughter, or assault has been committed, the coroner shall bind over the witnesses to appear and testify at the next criminal court, at which an indictment for such offence can be found, that shall be held in the county. And in such case, if the party charged with any such offence be not in custody, the coroner shall have power to issue process for his apprehension, in the same manner as justices of the peace.

"SEC. 10. The coroner issuing such process shall have the same power to examine the defendant as is possessed by a justice of the peace, and shall in all respects proceed in like manner.

"SEC. 11. The testimony of all witnesses examined before a coroner's jury shall be reduced to writing by the coroner, and shall be returned by him, together with the inquisition of the jury, and all recognizances and examinations taken by such coroner, to the next criminal court of record that shall be held in the county.

"SEC. 12. In case of the absence of the coroners of the city and county of New York, or their inability to attend, from sickness or any other cause, at any time, any alderman or special justice of the city may perform, during such absence or inability, any duty appertaining to the coroners of the said city, under this article; and such

alderman or justice shall possess the like authority, and be subject to the like obligations and penalties as the said coroners. [*As modified*, Laws of 1852, *ch.* 289.]

"SEC. 13. The coroners of the several counties in this State are hereby required to deliver over to the treasurer of their respective counties, all moneys and other valuable things which have been or may hereafter be found with or upon the bodies of persons on whom inquests have been or may hereafter be held, and which shall not have been claimed by the legal representatives of such person or persons, within sixty days after this act becomes a law, in cases of inquests heretofore held; and in cases which may hereafter arise, within sixty days after the holding of any such inquest; and in default thereof, the said treasurer shall be authorized and required to institute the necessary proceedings to compel such delivery. [Laws of 1842, *ch.* 155, § 1.]

"SEC. 14. The several treasurers to whom any such valuable thing shall be delivered, pursuant to the provisions of this act, shall, as soon thereafter as may be, convert the same into money, and place the same to the credit of the county of which he is treasurer; and if demanded, within six years thereafter, by the legal representatives of the person on whom the same was found, the said treasurer, after deducting the expenses incurred by the coroner, and all other expenses of the county in relation to the same matter, shall pay the balance thereof to such legal representatives. [*Same ch.*, § 2.]

"SEC. 15. Before auditing and allowing the accounts of such coroners, the supervisors of the county shall require from them, respectively, a statement in writing containing an inventory of all money and other valuable things found with or upon all persons on whom inquests shall have been held, and the manner in which the same has been disposed of, verified by the oath or affirmation of the coroner making the same, that such statement is in all respects just and true, and that the money and other articles mentioned therein have been delivered to the treasurer of the county, or to the legal representatives of such person or persons. [Laws of 1842, *ch.* 155, § 3.]

"SEC. 16. The said coroners shall be entitled to receive a reasonable compensation for making and rendering such statement, and for their trouble and services in the preservation and delivery of said effects and property, as hereinbefore provided; and all reasonable expenses incurred by them in relation thereto, to be audited by the board of supervisors, in addition to the fees or compensation to be allowed by them for holding an inquest." [*Same ch.* § 4.]

The special acts relating to the city of New York are as follows:

By Laws of 1871, chapter 462, it was enacted as follow:

"SECTION 1. Hereafter when in the city and county of New York, any person shall die from criminal violence, or by a casualty, or suddenly when in apparent health, or when unattended by a physician, or in prison, or in any suspicious or unusual manner, the coroner shall subpœna a properly qualified physician, who shall view the body of such deceased person externally or make an autopsy thereon as may be required. The testimony of such physician and that of any other witnesses that the coroner may find necessary, shall constitute an inquest. For making said external examination the physician shall receive three dollars; for making such autopsy he shall receive ten dollars, and such sums shall be a county charge, and be paid by the board of supervisors.

"SEC. 2. Should the coroner deem it necessary, he may call a jury to assist him in his investigation, or should any citizen demand that a jury be called, he shall proceed as directed by part four, title seven, article one, of the Revised Statutes.

"SEC. 3. It shall be the duty of any citizen who may become aware of the death of a person who shall have died in the manner stated in section one of this act, to report such death forthwith to one of the coroners, or to any police officer, and such police officer shall, without delay, notify the coroner of such death; and any person who shall wilfully neglect or refuse to report such death to the coroner, shall, upon conviction, be adjudged guilty of a misdemeanor, and shall be punished by imprisonment in the county prison not exceeding one year, or by a fine not exceeding five hundred dollars, or by both such fine and imprisonment.

"SEC. 4. Any person, except the coroner, who shall wilfully touch, remove, or disturb the body of any one who shall have died in the manner described in section one of this act, or who shall wilfully touch, remove or disturb the clothing, or any article upon or near such body, without an order from the coroner, shall, upon conviction, be adjudged guilty of a misdemeanor, and shall be punished by imprisonment in the county prison not exceeding one year, or by a fine not exceeding five hundred dollars, or by both such fine and imprisonment.

"SEC. 5. Any citizen of this State not over seventy years of age and being at the time a resident of the county, may be summoned to serve as a juror upon a coroner's inquest; and any person who shall wilfully neglect or refuse to serve as such juror when duly sum-

moned, shall, upon conviction, be adjudged guilty of a misdemeanor, and shall be punished by imprisonment in the county prison not exceeding one year, or by a fine not exceeding five hundred dollars, or by both such fine and imprisonment.

"SEC. 6. The board of coroners of the county of New York may appoint a clerk, who shall receive an annual salary of thirty-five hundred dollars per year, which shall be a county charge, and payable as other county salaries are paid.

"SEC. 7. All acts or parts of acts inconsistent with the provisions of this act are hereby repealed.

"SEC. 8. This act shall take effect immediately."

The previous compensation had been fixed by chapter 565 of Laws of 1868, as follows:

"SEC. 1. The Supervisors of the county of New York are hereby directed to audit the bills of the coroners of the city and county of New York for services as follows: For viewing each dead body and holding an inquest thereon, the sum of ten dollars; for summoning and swearing a jury in each inquest, five dollars; and all other fees or expenses now existing, whether by city or county usage, or by law, charged by said coroners, are hereby abolished. And no fees herein established shall be audited by said board of supervisors, or hereafter paid, except upon the sworn accounts filed with said board, and with the comptroller of said city.

"SEC. 2. This act shall take effect immediately."

In 1873, Laws of 1873, chapter 833, the following act was passed, entitled "An Act to Regulate the Fees of Coroners:"

"SEC. 1. The coroners in and for the State of New York, except in the counties of New York and Kings, shall be entitled to and receive the following compensation for services performed:

"Mileage to the place of inquest and return, ten cents per mile.

"Summoning and attendance upon jury, three dollars.

"Viewing body, five dollars.

"Service of subpœna, ten cents per mile traveled.

"Swearing each witness, fifteen cents.

"Drawing inquisition for jurors to sign, one dollar.

"Copying inquisition for record, per folio, twenty-five cents, but such officers shall receive pay for one copy only.

"For making and transmitting statement to board of supervisors, each inquisition, fifty cents.

"For warrant of commitment, one dollar.

"For arrest and examination of offenders, fees shall be the same as justices of the peace in like cases.

"When required to perform the duties of sheriff, shall be entitled to and receive the same fees as sheriffs for the performance of like duties.

"Shall be reimbursed for all moneys paid out actually and necessarily by him in the discharge of official duties.

"Shall receive for each and every day and fractional parts thereof spent in taking inquisition (except for one day's service), three dollars.

"For performing the requirements of law in regard to wrecked vessels, shall receive three dollars per day and fractional parts thereof, and a reasonable compensation for all official acts performed, and mileage to and from such wrecked vessel, ten cents per mile.

"For taking ante-mortem statement shall be entitled to the same rates of mileage as before mentioned, and three dollars per day and fractional parts thereof, and for taking deposition of injured person in extremis, one dollar.

"SEC. 2. A coroner shall have power, when necessary, to employ not more than two competent surgeons to make post-mortem examinations and dissections and to testify to same, and to fix their compensation, the same to be a county charge.

"SEC. 3. Whenever, in consequence of the performance of his official duties, a coroner becomes a witness, he shall be entitled to receive mileage to and from his place of residence, ten cents per mile, and three dollars per day for each day or fractional parts thereof actually detained as such witness.

"SEC. 4. All items of coroners' compensation shall be a county charge, to be audited and allowed by board of supervisors.

"SEC. 5. All acts and parts of acts inconsistent with this act are hereby repealed.

"SEC. 6. This act shall take effect immediately."

This act was amended the next year, Laws of 1874, chapter 535, by the passage of the following amendment:

"SEC. 1. The thirteenth paragraph of section one, chapter eight hundred and seventy-three, entitled 'An Act to Regulate the Fees of Coroners, is hereby amended by adding thereto the words, 'as

Shall be allowed by the board of supervisors,' so that said paragraph shall be read as follows:

"'Shall be reimbursed for all moneys paid out, actually and necessarily by him in the discharge of official duties as shall be allowed by the board of supervisors.

"SEC. 2. Section two of said act is hereby amended so as to read as follows:

"SEC. 2. A coroner shall have power, when necessary, to employ not more than two surgeons to make post-mortem examinations and dissections, and to testify to the same, the compensation therefor to be a county charge.

"SEC. 3. Section three of said act is hereby amended so as to read as follows:

"SEC. 3, Whenever, in consequence of the performance of his official duties, a coroner becomes a witness in a criminal proceeding, he shall be entitled to receive mileage to and from his place of residence, ten cents per mile, and three dollars per day for each day, or fractional parts therof, actually detained as such witness."

An act was passed in 1873, referring to the practice in the city of New York, chapter 620, Laws of 1875, with the following provisions:

"SEC. 1. It shall be lawful for the several coroners in and for the city and county of New York, with the written consent first had and obtained of the district attorney and a justice of the supreme court within said city and county, to employ any scientific expert, engineer, or toxicologist to examine the body of any person who shall have died from alleged criminal violence, or by casualty, or in any suspicious or unusual manner, and as to the cause of whose death the coroner shall have jurisdiction to inquire.

"SEC. 2. Upon the certificate of such employment by a coroner, with the written consent of the district attorney and a justice of the supreme court, as aforesaid, being filed with the comptroller of said city and county of New York, such scientific expert, engineer, or toxicologist shall be entitled to recover and receive as a proper claim against said city and county of New York just and reasonable compensation for his services rendered in the matter of such inquest upon the request of said coroner with such written consent as aforesaid. Such just and reasonable compensation shall be ascertained and certified to by the district attorney, justice of the supreme court, and the comptroller of said city and county of New York; and in case such just and reasonable compensation shall not be so certi-

fied and paid, such scientific expert, engineer, or toxicologist shall be entitled to maintain his proper action therefor at law to recover the same.

"SEC. 3. It shall be the duty of said board of estimate and apportionment of the said city and county of New York, to provide in each and every year, out of the moneys raised by taxation, all necessary sum or sums of money for the purpose of carrying the provisions of this act into effect, and also for paying all such sum or sums as are provided for by the following section of this act.

"SEC. 4. It shall be the duty of said board of estimate and apportionment to provide for the services of any of the classes of persons mentioned in the first section of this act, which have been rendered since the first day of January, one thousand eight-hundred and seventy-two, in pursuance of the direction of any coroner of said city and county, such sum of money as the district attorney, justice of the supreme court, and comptroller, as aforesaid, or a majority of them, may certify as just and reasonable; and in case of the refusal of the payment of the amount so certified, as aforesaid, by the officer whose duty it is to pay the same, the person rendering such services shall be entitled to maintain his action against said city and county of New York, or the mayor, aldermen and commonalty thereof, or other proper officer thereof, to recover the just and full value of the services so rendered.

"SEC. 5. All acts and parts of acts inconsistent herewith are hereby repealed.

"SEC. 6. This act shall take effect immediately."

The law remained as before stated until the year 1878, when the following act was passed, entitled "An Act Relating to the Coroners of the City of New York—Their Duties and Compensation," chapter 256, Laws of 1878:

"SEC. 1. Each of the coroners of the county and city of New York, hereafter elected as provided by law, shall be paid in full satisfaction for his services a yearly salary of five thousand dollars, and shall be allowed for contingent expenses, including clerk and office hire, and all other incidental expenses, a sum not to exceed two thousand dollars per annum, which contingent and incidental expenses shall be audited and paid as the contingent and incidental expenses of other officers of the said city and county are audited and

paid; and said salary and allowance shall be in lieu of all his fees or compensation heretofore a charge upon the county of New York, or the mayor, aldermen, and commonalty of the city of New York.

"SEC. 2. In all cases where the coroners of said city and county are authorized to issue a subpœna to a qualified physician to view the body of a person deceased, or make an autopsy thereon, as may be required, the subpœna of the coroner shall hereafter be issued only to one of the physicians appointed, as in this statute directed, and it shall be the duty of the physician to whom such subpœna is so issued, to make the inspection and autopsy required, and to give evidence in relation thereto at the coroner's inquest.

"SEC. 3. The board of coroners of the city of New York shall, within five days after the passage of this act, by a writing filed in their office and published in the *City Record*, appoint four qualified physicians, who shall be residents in said city, to perform the duties in the preceding section specified, and shall be known as 'coroners' physicians.' Thereafter each coroner of said city elected as provided by law, shall, on assuming office, appoint successors to the physicians herein provided for. Any vacancy in the office of coroners physicians shall be filled by the board of coroners. The board of coroners, for cause, may remove the physicians appointed by them.

"SEC. 4. It shall be the duty of the board of estimate and apportionment of said city, from time to time, as it may determine, to fix the salary to be paid to the physicians appointed as in this statute directed for performing the duties herein provided. The salary to be paid to each of said physicians shall not in any one year exceed the sum of three thousand dollars. The salaries in this act provided for shall be paid monthly by the mayor, aldermen and commonalty of the city of New York.

"SEC. 5. Each of said coroners heretofore elected shall attend to an equal or proportionate part of the cases in which a coroner is required to act in said city and county; and after the thirty-first day of December, eighteen hundred and seventy-eight, there shall be paid to each of said coroners, during the remainder of his term of office, the fees or compensation now provided by law.

"SEC. 6. So much of section one of chapter four hundred and seventy-one, as provides 'for making said external examination, the physician shall receive three dollars; for making such autopsy he shall receive ten dollars; and such sum shall be a county charge and paid by the board of supervisors, is hereby repealed. The act, chapter five hundred and sixty-five of the laws of eighteen hundred and sixty-eight, entitled 'An Act to Fix the Compensation of the

Coroners of the City and County of New York,' passed May four, eighteen hundred and sixty-eight, is also hereby repealed, but such repeal shall not take effect until the first day of January, eighteen hundred and eighty.

"SEC. 7. This act shall take effect immediately, except as herein otherwise specially provided."

At the same session, the Laws of 1873 were amended as follows (chapter 286, page 382):

"SEC. 1. Chapter eight hundred and thirty-three of the laws of eighteen hundred and seventy-three, entitled 'An Act to Regulate the Fees of Coroners,' is hereby amended by the insertion of a new section immediately after the third section, as follows:

"SEC. 4. The fees of jurors necessarily summoned upon any coroner's inquest shall be not to exceed one dollar for each day's service, shall be a county charge, and shall be audited and allowed by the board of supervisors in the same manner as other fees and charges mentioned in this act. But the coroner holding such inquest and summoning said jurors shall make report to the next succeeding board of supervisors after every such inquest of the names of such jurors and the term of service of each, and upon what inquest rendered, on or before the third day of the annual session in each year.

"SEC. 2. Sections four, five and six of said act are hereby numbered respectively, sections five, six and seven.

"SEC. 3. This act shall take effect immediately."

The foregoing is a resumé of the existing statutes and laws of this State, in force as well as in the State at large, as also those in force in the city and county of New York.

Special legislation for Kings and Erie, and some other counties of the State, has been passed, but nothing of particular interest to the question under discussion.

These and other considerations which have occurred to you as medical men, of the workings of the present coroners' system under your eyes in the various sections of

the State where you reside, must have long ago decided you that a change in the present system of coroner was an urgent necessity.

The medical profession owes a duty to itself in this matter.

It should for itself, and for the sake of placing such cases in proper hands, aid this movement.

If competent medical men can be placed by law in charge of such cases, an important, forward step will be taken both for your profession and for the public weal.

The influence of the State Medical Society of Massachusetts was enormous in influencing the legislature of that State to abolish the office of CORONER and to put in his place the MEDICAL EXAMINER.

The State Medical Society of New York occupies the same proud position in the EMPIRE STATE.

I ask you to endorse this movement with your unanimous vote. Let the effort when it goes to the legislature have your hearty endorsement, not alone, but let the medical profession throughout the State rally to a movement so intimately connected with its honor and its future.

I must not close without extending my thanks to the officers of the Massachusetts Medico-Legal Society, Mr. Theodore H. Tyndale; Mr. Fred. R. Coudert, Mr. J. P. Beder, Mr. B. Roelker, of our Bar; the Consuls-General of Germany, Russia, Italy, Greece and Spain; for courtesies and information in the investigation of this subject.

I have the honor, gentlemen, to ask your consideration of resolutions favoring and urging this important reform upon the State Legislature.

NOTE.—At the February session of the New York State Medical Society, (1881) the following action was taken:

The Commtttee on Legislation reported that having conferred with Mr. Clark Bell, they recommend the adoption of the following resolution:

Resolved, That in the opinion of this Society it is desirable for the Legislature to thoroughly amend and revise the laws of this State in regard to the office and duties of Coroners, and the Society would recommend for their consideration the recent statute adopted by the State of Massachusetts. [Substituting medical examiners for coroners.]

The report of the Committee was accepted and the resolution unanimously adopted.

The Committee on Legislation also offered the following:

Resolved, That the thanks of the Society are due to the Medico-Legal Society of New York, and to Clark Bell, Esq., for the action they have taken in reference to the matter of Coroners' law.

This resolution was unanimously adopted.

*HUMAN FACILITY AND POWER TO TRANSMIT AND RECORD LANGUAGE.**

By R. S. Guernsey, Esq., of the New York Bar.

The mental and physical capacity of man in expressing, receiving and recording of language depends upon the sensibility of the human body through its senses and organisms. The capacity to transmit language by sound from one to another is quite different from the transmission of ideas by sound from one to another, because in the latter case a few words or sounds may perform the office, while in the former the sounds or words must represent the ideas sought to be transmitted in such a distinct manner as to be physically recorded as it is transmitted to another person. This capacity, apart from machinery or mechanism, must be governed by, and limited to, human strength and endurance, and may properly be classed among athletic feats and training.

The rapidity of speaking or reading aloud is part of the athletic strength of a person; so is the capacity to rapidly receive and record the same.

The comprehensiveness of the ideas or their expression thus transmitted or recorded are not considered in our inquiry.

Memory may be an important factor in both the transmission and recording of language, particularly when the sentences are short. The greatest feat and skill is shown in the rapidity of receiving and recording

*Read before the American International Congress of Medical Jurisprudence, held in New York City, June 4th–7th, 1889.

language, from whatever source, whether from without, being transmitted by sound, or from within, being through the memory or the senses, or by the evolution or association of ideas.

The best examples and specimen of this peculiar human capacity and strength are to be found in a rapid speech of some length and of the instantaneous recording of it by means of phonography.

The capacity and ability of man to utter language by sounds is limited by the physical mechanical organism of his body, similar to material machinery constructed by man, but not equalled by him in its delicacy, but confined within much more limited bounds. The physiological machinery can be greatly extended by practice and circumstances, but even then there is a well defined limit beyond which words cease to be distinct and intelligible to the ear.

Under great excitement some persons can speak so as to be distinctly understood at the rate of 220 words per minute, but such persons are very few, and the hearer must be accustomed to the voice as well as familiar with the subject spoken of.

The number of syllables in words have much to do with rapidly pronouncing them. The average of the English language contains one and one-half syllables in each word.

A very good test of fast pronunciation is to see how many times all the letters of the alphabet can be repeated in one minute. Twenty times a minute will be found very rapid. Each letter is only one syllable excepting W, then there will be 540 syllables pronounced in a minute—the average of words being one and one-half syllables, which makes the pronunciation 360 words a minute.

The average number of words used by public speakers that are distinctly understood is from 120 to 130 words a minute. An average of 150 words is quite rapid, and 175 to 190 words is very rapid, but very few speakers reach that speed, although even that is occasionally exceeded for short spurts by eloquent and excited speakers. In the trial of George Francis Train for insanity, some years ago, while on the witness stand he testified at times at a rate exceeding 210 words a minute, and it was taken down by a stenographer.

Judge Van Brunt, Chief Justice of the Supreme Court in New York city, is a very rapid speaker. In a charge to a jury two or three years ago which took forty-five minutes, the average was 195 words a minute. I may also add that it was stenographically reported by the old Gurney system of shorthand, which has been in use in England for more than 137 years.

The late Dr. E. H. Chapin has been known to preach for an hour at the rate of 190 words per minute. The usual average of his sermons was 170 words when he used notes or spoke extemporaneously. Among pulpit extemporaneous orators the late Henry Ward Beecher averaged about 180 words per minute. He was regarded by professional stenographers as the most difficult to report of any of the well-known public speakers. The reason of this was his sudden and rapid spurts of oratory—his words sometimes then being uttered at the rate of 200 a minute. Dr. Chapin might average more words in half an hour than Mr. Beecher, because his utterance was more even and continually rapid. The Rev. Phillips Brooks, of Boston, is, without doubt, the most rapid preacher now living. He often delivers 220 words in a minute.

Persons that have a manner of dwelling on the vowel

sounds in words, though speaking other words rapidly, take up time in that way that will greatly reduce the average speed of delivery.

It is said that the most rapid speaker that has ever been in Congress was Senator Sargent, of California. He was in the Senate from 1873 to 1879, and was in Congress in years previous. He has been known to speak by short spurts at the rate of 220 words a minute.

The most rapid speakers now in the Senate are Senator Beck, of Kentucky, and Senator Hawley, of Connecticut; but they seldom ever can go above 200 words a minute.

With all their reputation for fluency, counsel seldom can talk to a jury at a rate up to 180 words, and then only spasmodically. The late James T. Brady and William A. Beach both were very fluent before a jury—averaged about 140 words. John Graham, one of the most easy, graceful and fluent speakers, and the easiest followed by stenographers, averages about 150 words. Daniel Dougherty, the eloquent Philadelphia lawyer, now residing in New York, averages about 140 words. William M. Evarts averages about 120 words and frequently dwells on the vowel sounds, which takes more time than those above mentioned.

In public speaking Edward Everett, John Van Buren and Charles O'Conor used about 130 words a minute. Horace Greeley, Roscoe Conkling, Joseph H. Choate, Rev. Dr. Storrs and Chauncey M. Depew, about 140 words. Dr. Talmage and Col. R. G. Ingersoll about 150 to 160 words in their usual public addresses, and Clark Bell about 190 words. Rev. Phillips Brooks often exceeds 200 words. Roscoe Conkling and John K. Porter both dwelt on the vowel sounds—the latter so much as to scarcely average 120 words a minute. Most clergy-

men also do this to a great extent, though not so much now as was usual half a century ago.

In speaking only one hundred words a minute great deliberation can be used, and there is more opportunity for oratorical display and effect than in more rapid speaking.

Some persons read faster than they speak extemporaneously, and others read slower than they speak extemporaneously.

In reading from manuscript in public, or repeating from memory, the average is about 120 words for most persons who pronounce distinctly and properly regard punctuation.

Many of the public speakers in England are rapid, on the average, in a lengthy speech, and show themselves capable of great endurance in that line, but their syllables and words are not so distinct as are many American speakers. One of the most rapid parliamentary speakers at present is Lord Randolph Churchill. His voice is sonorous, and his pronunciation is distinct as well as rapid. A few years since he delivered an address of fifteen minutes length, which was published in the London *Times* the next morning, making 208 lines. The average was 140 words a minute, without allowing for cheers or other interruptions and some pauses within that time. This was regarded as a great feat by the English press. The reporters considered that they had also done well to report so rapid an address.

About eight years ago Mr. Gladstone delivered a speech at Leeds which contained 8,400 words, and occupied one hour and three-quarters in delivery, being at the average rate of eighty words per minute. Less than five years ago, in Scotland, he delivered an address containing 11,500 words, in one hour and thirty minutes. This

was at the average rate of 121 words a minute, and was accurately reported. This was more remarkable when we consider that at the time Mr. Gladstone was 76 years of age, being many years beyond the period when the voice usually begins to lose power and volume. Dr. Mackenzie, in his treatise on "The Hygiene of the Vocal Organs," tells us that the speaking voice usually begins to lose power and volume at between fifty and sixty years of age, and this, too, when the person appears otherwise in good physical condition.

From the time language was first spoken, until the time it was possible to write it down with any degree of rapidity, there must have been "a long felt want" for such a system for it as we have at present.

So far as we know, the Greeks were the first that used shorthand writing. It was about Xenophon's time, 400 B. C. As evidence that the Greek system was thought the best, we still find the Greek name for it in use with us in the word "stenography," which is from the word "*stenos,*" which means narrow. This kind of writing was in use in the time of Demosthenes and Cicero. It was made up largely of arbitrary signs and characters of great number, almost in extent equal to the Chinese written characters, but which, when learned, were capable of rapid and easy formation.

During the Middle Ages very little attention was paid to it. For many centuries, before the invention of printing, the characters used in written language, in books and documents, were formed more with an eye to grace, beauty and ornament, than to speed and convenience. On the revival of learning this kind of writing, of which the long hand of the present day is a part, was found inadequate for the purposes of taking down words rapidly, hence another form and style of

writing was sought for and invented, for purposes requiring rapid execution.

The first English stenographic alphabet was invented by John Willis and published in 1602, and from it the systems of stenography now in use in the English language gradually grew. The Mason system in 1682, the Gurney system in 1753, the Taylor system in 1786, the Pitman system, 1837. The French system is founded on that of Taylor.

Of all those systems that of Gurney still practically holds disputed sway with that of Pitman, the most modern of them. The Gurney system is founded upon grammatical construction, and is made up largely of arbitrary signs which represent the root, affixes and prefixes, and syllables of words, and some letters of the alphabet, and is more difficult to learn and to practice than the newer systems. Two hundred words a minute can be taken by it. There are only two persons known in the United States who can use it. It is not taught here now. The Pitman system of phonography is mostly used in England as well as in this country.

I have never found a person who practically understands both of any two systems above mentioned, unless he be an inventor of some other system; hence it is impossible to ascertain which is really the best. My idea is that the system most easy to learn is and will be the one most in use.

Phonography, as its name implies, is the art of representing the sounds of the voice by written signs. It is based on an analysis of the English language, representing the sounds of syllables and words wholly regardless of the ordinary ways of spelling them. It provides a simple and separate sign for every sound in the language—dots and dashes representing the soft or vowel

sounds—straight lines and curves the hard or consonant sounds. These consonants or letters are divided into six classes, each of which has a character peculiar to its sound, and these, in connection with a vowel sound, make up the representative of the syllable or word. This system is peculiar to the English language, and an expert stenographer will have as much difficulty to take down any other language spoken as it is for one not familiar with a foreign language to pronounce it after it is spoken by one who is fully acquainted with it or to write it out in the English mode of spelling words. Each language must have a phonography of its own to represent its peculiar sounds and mode of spelling and for its idioms. The system now mostly in use in the English language is that of Mr. Isaac Pitman, or founded upon his system, which is now only fifty years old. Previous to that, as we have before seen, many systems of shorthand writing by arbitrary sings and abbreviations were used.

The phonographic alphabet requires but thirty-one distinct and very simple motions, while our long hand system requires, in using the most simple form of letters, two hundred and twenty-two distinct and different motions of the hand to make all the capitals and small letters in it. The combinations and construction of phonographic writing are proportionately simple and easy in learning and in use.

At a speed of 100 words a minute, shorthand can be written with a legibility that is little inferior to print. But as the speed increases the legibility gradually fades. Above 150 words a minute with the average professional stenographer it begins to enter the domain of uncertainty. At 200 words a minute many of the outlines are so distorted that they can hardly be recognized by

the writer, and the notes in such cases are written out in part by the aid of memory or a kind of sagacity required in solving riddles. A stenographer must keep in practice at rapid reporting to be able to take even 150 words a minute.

The number of stenographers who can take 200 words a minute for a period of ten minutes can be counted on the fingers of one hand, and this, too, depends greatly upon the words used and the number of syllables in them, as well as upon the familiarity of the steno grapher with the subject and with the voice and style of the speaker. A stenographer in Congress is nominally expected to be able to take 200 words a minute in cases of emergency, but there are very few of them who can take 175 words a minute for ten minutes. Dennis Murphy in his best days could take a speech that at times was delivered at a rate of 220 words a minute. There are always several stenographers on hand report-ing at one time, and they compare notes and thus are sure of accurately reporting whatever may be said, and however rapid and indistinct it may have been delivered.

One great advantage a stenographer has is, that no one but himself is *expected* to transcribe his notes. He can, as they generally do, fill in many of the common words which were abbreviated or omitted in his notes. Although he may take down only 150 or 180 words, when they are written out by him they may exceed 200 words.

Mr. J. E. Munson, in his preface to his Phonographic Dictionary, says : "A person who commences reporting with a speed of 150 words a minute, well written, may depend upon future experience and the inspiration of the moment to tide him safely over passages that are spoken above that rate. There are several reporters

who have been known to write for short periods a little above 200 words a minute, and there is one authentic instance of a reporter of great natural quickness exceeding 250 words a minute, while writing from a dictation of matter that was new to him." I think the words in this last case must have been very short and of few syllables, for, as we have before seen, the human voice cannot utter, and the ear distinguish, that number of words if they averaged one and one-quarter syllables each. In many parts of the Bible there are long portions of it that can be taken down one third faster when counted by words, that can the usual language found in the newspapers and periodicals of the present day. The word test is not a fair one. The syllable test is the only fair and proper one when the highest speed is to be ascertained. The character or symbol test is still better.

I assert here that I do not believe that there is a stenographer living that can take 450 syllables a minute, for five minutes. This would be only about 300 words a minute on the usual average of syllables in words. Mr. Munson informs me that one young man in New York City on several occasions, in the presence of several witnesses, writing after dictation from law books, averaged 230 words a minute for ten minutes and then read his notes off without an error.

The fastest writing by stenography I have ever heard of, as claimed by any person, was that of a lady who had acquired a rate of speed exceeding 275 words a minute for several minutes, and at one time she made phonographic notes of 1,017 words in four minutes, which she afterwards read without difficulty. On another occasion she wrote down 307 words in one minute. This last test I have been furnished with the words written. They are of easy construction and many of them

occur many times. This enables any person to use a simple arbitrary sign for the word. The syllables as actually counted are 461 in the matter read. As to all others I have not seen the matter and know not what they were. This proves that the syllable test or the number of characters written should be the standard.

Court stenographers are expected to be able to take down 150 words a minute at least, but they are seldom obliged to take down more than 130 words, being two and one-sixth words per second. The questions to witnesses and the answers given are usually in short words and many of them only in one syllable, which is a great advantage in favor of stenography, and then, again, the time between each sentence enables a stenographer to avail himself of his skill in carrying the words in his mind and thus catching up with the speaker when he pauses for any cause. The addresses of counsel to the jury vary in rapidity, as we have before seen, as well as style according to the occasion. About 130 words is the average, and the charge to the jury by the court is less than that, being more deliberate than counsel are.

There are no stenographers whose reporting notes can be read by any other stenographer without special study under the direction of the original writer. This is because there are still many arbitrary signs used for words and phrases which are not vocalized—that is, written according to their sound. Those that are not rapid stenographers, and beginners, usually vocalize all the words. This takes longer time than it does to use some arbitrary characters. Thus the word "notwithstanding" is arbitrarily written by two movements of the pen, and so is "nevertheless." To vocalize either of them would take many movements of the pen and many symbols. The only very rapid stenographer whose

notes could be read and written out by some other person was Dennis Murphy before spoken of, whose notes could be read and written out by his brother as well as by himself.

The most rapid writers of long hand are telegraph operators. The most difficult part of becoming a telegraph operator is that of receiving and writing it out fast enough. The average operator must be able to write out thirty words a minute at least. From necessity there is very little flourish in the writing and the pen is pulled rather than pushed over the paper. A receiver will not break a sender if he can possibly help it, and they keep their pens moving as fast as possible in order to avoid breaking. Very few receivers can follow more than five words behind without making mistakes. Another fact is, receivers cannot write nearly as fast when they are not receiving as when they are following the instrument. He is like a machine, the sound of the instrument enters his ear and runs out of his arm to the nib of his pen to the paper. The writing becomes almost involuntary the same as the reading from the instrument.

The ear does not require so high cultivation and training to distinguish the dots, dashes and spaces in telegraphy as it does in stenographic reporting, because in the latter the syllables or some of them in each word must be heard or inferred by the sense to be reported accurately.

The rapid transmission of messages can more easily be made than in receiving, because of the inability of the receiver to take them down in writing as rapidly as he can read them by sound. The most expert at reading from the sounder, as well as writing it down, can take about forty-five words per minute and be able to

continue it, if necessary, for half an hour. The words are generally those of familiar and easy construction, and of short syllables, which are usually found in ordinary business messages. An operator in Philadelphia named Snyder, now deceased, some years ago, had been known to receive by the Morse sounder at the rate of sixty words per minute, and take it down in writing so it could be read, and this for a period of about ten minutes. Cypher messages cannot be sent or taken as rapidly as others.

Some operators are capable of receiving at as rapid rate as it is possible to send. Yet they themselves could not transmit more than thirty words per minute. Others are scarcely able to receive at all, but can send at an astonishing rate.

The most rapid sending and receiving feat, practically that I have ever authentically heard of was on May 7th, 1868, when Mr. P. H. Burns sent from Boston, Mass., to Walter P. Phillips at Providence, R. I., 2,731 words of press matter in one hour, from nine to ten o'clock in the evening, and it was legibly transcribed by Mr. Philips during that time and the copy was immediately forwarded to the Boston *Journal*, *Herald* and *Post*. The editor of each of these papers spoke of the manuscript in complimentary terms as to its legibility and accuracy, "and in many particulars superior to the average manifold writing" that printers receive. This was at the rate of more than 45½ words per minute for the hour. This wonderful performance was duly recognized and rewarded by Prof. Morse himself, presenting a gold pencil personally to Mr. Phillips. At that time Mr. Phillips was only twenty-two years old. He is now the secretary and general manager of the United Press Association.

The fastest operators and senders in the large cities are employed usually in the night time, handling press matter.

In contests of fast sending, only where the matter is received in the presence of competent and reliable judges, there have been several within the past few years. In these cases the matter for sending is selected and may be practiced upon by each of the contestants if he chooses, and we might properly say, trained for the contest. Yet I am informed that training upon a particular piece is found of no practical advantage in any of these contests. One off-hand sending may be as rapid by the same person as if repeated many times, other things being equal as to the physical and mental condition of the person.

A fast-sending contest took place in New York City in August, 1881. But the most famous of these took place in New York City in August, 1884. The subject chosen was an editorial cut from the New York *Herald*, and contained five hundred words, fifteen periods and four commas. The periods were counted as two letters each, making a total of 2,368 letters, or about 509 words in all. Some of the punctation marks were properly omitted to allow of greater speed. Any omission of either letters or punctuation marks as they appeared in the copy were considered as an error. No combinations of letters, characters or words were allowable. Three prizes were offered. The matter was read by the operator, and the sounder was listened to by three competent judges with their time-pieces in hand. There were fourteen entries for the contest. The report was made upon ten of them. The most rapid was by Mr. J. W. Roloson, being in ten minutes and ten seconds, but he was not awarded the prize because of defective spacing

between the words and other minor details. The next was in ten minutes and thirty-two seconds, by Mr. Frank J. Kihm, who was awarded the third prize. The first prize was taken by W. L. Waugh, being in eleven minutes and twenty-seven seconds. The second prize was taken by W. M. Gibson, in eleven minutes and three seconds. The slowest reported was in thirteen minutes and fifty seconds. It was claimed by the contestants that no previous practice on this particular matter selected had been made by any of them.

The next great prize contest of this kind was in August, 1885. The same matter was selected and the same rules were observed as in the former contest. There were twelve entries in this contest. The shortest time was by J. W. Roloson, being in ten minutes and thirty-two seconds. He was awarded the first prize. It will be observed that the time is the same as was made by Mr. Kihm when he took the third prize in the former contest. The second was in ten minutes and thirty-eight seconds by Mr. Frank J. Kihm; he was awarded the second prize. The third was in ten minutes and fifty-seven seconds by W. M. Gibson; he was awarded the third prize. William J. Curtis was awarded a prize for absolute correctness, speed and beauty of style. His time was twelve minutes and twenty-seven seconds. The longest time was in thirteen minutes and thirteen seconds.

When we consider that the 2,368 letters were distinctly sounded by dots and dashes, and space enough between the 509 words to distinctly recognize them, each letter averaging three distinct dots and dashes, making 7,104 characters and 500 spaces between the words—a total of 7,613—all delivered in six hundred and thirty-two seconds by the winner of the first prize—being more than

12 distinct sounds, each second on the average, then we can form some idea of this wonderful physical and mental feat.

It may be interesting to note that in Prescott's History of the Telegraph published in 1860, he then gave the Morse system as the most rapid telegraph being then 1,500 words per hour. At that time the recording instrument was used, but receivers were not allowed to copy from the sound of the instrument.

American telegraph operators have, so far, shown themselves more rapid than any of their English cousins. Two or three years ago a trial of speed was had in London. Morse instruments were used. The 250 words selected were sent in seven minutes and 30 3-4 seconds by the most rapid of the contestants. The most accurate sender was in seven minutes and 50 3-5 seconds. The time of the third winner was eight minutes and 48 seconds.

One reason why telegraph operators are more rapid receivers in America than in England is because the Wheatstone recording instrument for receiving is most used, and the message can be written off at the leisure of the receiver. Another reason is that those in government employ have little or no incentive to be rapid or exceedingly proficient, because their promotion under the English civil service rules does not depend upon it so much as it does upon the time they have been in the public service.

Mechanical inventions have given some kinds of telegraph operators more rapidity than by the Morse instrument. By Edison's American Automatic Telegraph a skilled operator can perforate or punch sixty words per minute. By the Phelps Printing Telegraph instrument an expert operator can send eighty words a

minute, and it has the advantage of being printed as received. But for various reasons it is not so well adapted to general telegraph use as the Morse system.

Type writing by machine deserves mention in this connection. Some experts can make nearly 100 words a minute on this machine, but they usually cannot exceed sixty-five words. It should be taken into consideration that only one type can make an impression at one time, therefore the mechanism must limit its operation, however nimble the operator may be. Each word will average five letters, so that in 100 words there will be 500 letters, making eight and one-third letter impressions each second of time, including changes of lines on the machine.

It is much quicker than hand writing and does not require so much nerve to write rapidly, nor so much patience to read it after it has been rapidly excuted.

In conclusion : The result of the study above shown makes it appear to me that much is due to physical organization and training as well as to mental capacity and operation. It is extremely difficult to say which is the more important in these results. It has long been recognized by writers and observers in mental science, that the chief difference in men in their mental operations and powers consists in their power of fixing the attention and its period of continuance. Now, this study shows that the same powers of mind and body are required in rapidly expressing and in receiving and recording language as has long been recognized as pertaining to man and his nature when greatly excelling the generality of his fellows in mental strength and achievements, to wit : *It is the great power of attention and of concentration of the mind and of close mental application,* the best examples of which are found in the

minds of great astronomers, civil engineers, mathematicians, and some inventors of complicated machinery, and also of expert chess players. In all these the mental and physical conditions of man must be in proper relative conditions and in harmony with external objects. If any one of these is lacking for any cause. and the harmony is destroyed, the entire system is broken and then the race may not be to the swift or the strong, and the persevering tortoise may outrun the hare.

I may say here that the most rapid telegraph operators and receivers and also the most rapid stenographers arrive at their maximum of speed before they are 40 years of age, and whether from neglect of constant practic or from physical causes, their speed declines before the age of 50 years. Those who have had fair to good standing as to speed, continue it for some years longer. I also infer that the vigor and enthusiasm of youth has much to do with the results of mental as well as the physical achievements above narrated.

APPENDIX.

*ELEVENTH INAUGURAL ADDRESS**

OF

CLARK BELL, ESQ.

PRESIDENT OF THE MEDICO-LEGAL SOCIETY.

FELLOWS OF THE MEDICO-LEGAL SOCIETY:

A review of the labors of the year just closed in accord with our usual custom cannot fail to be of interest.

MEMBERSHIP.

At the commencement of 1890 we had on our roll of members 527 Active, 204 Corresponding and 12 Honorary, or a total of 743 names.

During the year we have elected 62 Active, 121 Corresponding and one Honorary member. We have lost by death, Active, 6; Corresponding, 2; a total of 8 names. We have dropped from the roll for non-payment of dues 56 names and have accepted 3 resignations. Leaving our membership on January 1, 1891, as follows: Active, 527; Corresponding, 323; Honorary, 13. A total of 863 names over and above all deaths and resignations, and exclusive of 56 names dropped from our published roll, who although still members of the body are suspended from its privileges until their arrears are paid, and which including these would make 919 names.

The full list of the Active and Corresponding members appears in the December number of THE MEDICO-LEGAL JOURNAL, except those temporarily suspended for non-payment of dues.

*Delivered January 14, 1891.

NECROLOGY.

The following members have died during the year:

Hon. Philip J. Joachimsen, late Judge of the City Court of New York; Thomas C. Finnell, M. D., of New York, an ex-President of the Medico-Legal Society; Daniel L. Gibbens, Esq., of the New York Bar; E. J. Kilbourne, M. D., Superintendent Illinois State Hospital for Insane at Elgin, Ill., an able and distinguished man; Prof. Dr. Max Leidesdorf, of Vienna, an eminent Austrian Scientist; Dr. John S. Butler, one of the elder American Alienists of Distinction, of Hartford, Conn.; E. H. Grandin, Esq., of the Bar of New York City; Benjamin F. Peixotto, Esq., of the Bar of New York City; Edwin Chadwick, M. B., the celebrated Sanitary Authority of London, one of our corresponding members.

THE WORK OF THE YEAR.

The following papers have been read before the Society during the year:

"The Inaugural Address of the President, Clark Bell, Esq," pronounced January, 1890; "Delirium Tremens as a Defense to Criminality," by T. Crisp Poole, Esq., Barrister at Law of Brisbane, Queensland; "The Importance of Distinguishing Between Somatic and Molecular Death," by Prof. L. Harrison Mettler, of Philadelphia; Letters on "Imbibition of Poisons," by Prof. R. C. Kedzie, of Michigan, and Prof. F. C. Robinson, of Maine; "Report of Committee on Sexual Causes of Crime," by E. W. Chamberlain, Esq., Chairman; "Education *vs.* Criminality, etc.," by Henry S. Drayton, M. D., of New York; "The Civilization of India," by our delegate to the Orient, Prof. Edward Payson Thwing, M. D.; "Osmosis of Strychnia through Organic Tissues," by George B. Miller, M. D., of Philadelphia;

"Electricity in its Medico-Legal Relations," by Clark Bell, Esq., of New York; "The Treatment of the Acutely Insane in General Hospitals," by W. P. Spratling, M. D., Assistant Physician at New Jersey State Asylum, Morris Plains, N. J.; "Heredity, Criminality, etc., *vs.* Education, etc.," by Mrs. Sophie McClelland, of New York.

Debate upon the Assembly bill proposing "The Abolition of the Death Penalty" in New York.

Action on letter of the Secretary of Belgian Society of Mental Medicine, "Appointing a Committee on Classification of Mental Diseases."

Action approving the resolutions adopted at the International Congress of Medical Jurisprudence of June, 1889, on the recommendation to establish a chair of medical jurisprudence in all law and medical schools and in all American colleges where law and medicine were taught.

Action on letter from Prof. James, of Harvard, regarding psychical research. "Epilepsy as a Defense to Crime," Part I. By Prof. J. J. Elwell, of Ohio. Same subject in letters and short papers by:

John P. Stearns, M. D., Supt. etc., of Hartford, Conn.; Dr. Orpheus Everts, Supt. College Hill Sanitarium, Ohio; Dr. J. Strong, Supt. Insane Asylum, Cleveland, Ohio; Walter Channing, M. D., Supt. Asylum, Brookline, Mass.; "The Proper Disposition of Insane Criminals," by Prof. Archibald Church, of Chicago, Ill.; "The Legal Test of Lunacy," by A. Wood Renton, Esq., of London. "The Same Subject," by Judge A. L. Palmer, of the Supreme Court of New Brunswick; "Report of the Delegates to the International Congress of Berlin," by Robert Newman, M. D.; "Report of the Delegates to the International Union of Criminal Law," held at Berne, Swit-

zerland, by Dr. Emily Kempin; "The True Test of Legal Responsibility of the Insane," by Judge H. M. Somerville, late of the Supreme Court of Alabama; "Moral Insanity," By W. P. Spratling, M. D., Assistant Physician New Jersey State Asylum, Morris Plains; "Hypnotism," by Wm. M. Palmer, M. D., of Providence, R. I.; "Epilepsy as a Defense in Criminal Cases." Part 2d. By Prof. John J. Elwell, of Ohio; "Sudden and Unexpected Death," by George D. Wilcox, M. D., ex-President Rhode Island Medico-Legal Society of Providence, R. I.

The report of standing committees submitted herewith concluded the labors of the year 1890, though not made until the January meeting of 1891, viz:

(*a*) The Report of the Committee on Reorganization of the Morgue in the City of New York; (*b*) The Report of the Committee on Hypnotism; (*c*) The Report of the Committee on National and State Chemists, to act as Toxicological Experts in criminal trials at call of the people or the accused.

A brief notice of the other labors of the body may be made:

1. The first volume of Prize Essays contributed on the Elliott F. Shepard prize has been completed and is ready for delivery to subscribers.

2. The fourth and fifth series of Medico Legal papers have been more than half printed and are progressing, continuing the publication of the early papers of the Society from volume third, already issued, and the papers of the International Medico-Legal Congress of June, 1889, in part.

3. The Bulletin of the International Medico-Legal Congress is now nearly completed, a work of over 400 pp., and will be shortly issued to the members of that Congress, and the subscribers who are members of this

society. This has been an expensive work, and its burden has fallen heavily upon a few members of the society.

When completed it will form a notable contribution to the Medico-Legal Literature of the World. Members of the Society who have not already done so should remit $3.00 to pay the expense of the volume and enroll in the International Congress of Medical Jurisprudence for the Session of 1892.

4. The work of nationalizing the Society has gone forward with wonderful success.

The Vice-Presidents of the Society elected at the December annual meeting from the various States and Territories of the Union and from foreign countries will best illustrate the scope and character of the labor in this regard.

6. The extension of the membership has been in every way remarkable as well in the active as in the corresponding list. It has been most conspicuous, perhaps, on the legal and judicial side.

I submit a partial list of eminent names, who are now co-operating in our labors, admitted during the year 1890—active and corresponding.

ACTIVE.

E. A. Snow, Esq., Albert T. Graeffe, Esq., T. M. Thorndyke, M. D., H. C. Underhill, Esq., Franklin Pierce, Esq., Prof. T. P. Eskridge, M. D., Hon. E. T. Tallaferrio, Jas. T. Green, M. D., Judge Elisha Carpenter, Judge James H. Peters, Robert Funkhouser, M. D., Wilson McDonald, Esq., E. Morgan, Jr., M. D., Richard A. Springs, Esq., Daniel L. Gibbens, Esq., Schuyler S Wheeler, Esq., Wm. Maver, Jr., Esq., Abraham Nelson, Esq., M. J. White, M. D., H. O. Jewett, M. D., Willard C. Humphreys, Esq.

George F. Keene, M. D., Appleton Morgan, Esq., F. T. Payne, M. D., Hon. W. L. Burnap, Editor J. N. Love, M. D., Frank P. Norbury, M. D., H. B. Hill, M. D., E. H. Hotchkiss, Esq., Amos C. Lewis, M. D., Edward Pierce, M. D., D. Young, M. D., Robert Newman, M. D., Judge A. Alinge, James H. McBride, M. D., R. B. Dupree, M. D., Hon. George W. Taylor, J. T. Wilson, M.D., R. M. Suearingen, M. D., Hon. Seth Shepard, Louis Leon, M. D., Judge Albert H. Horton, Franklin R. Haines, Esq , R. P. Talley, M. D., Hume Williams, Esq., F. M. Hood, M. D., Chancellor Henry A. Gibson, Walter S. Fleming, M. D., L. C. Mial, M. D., D. A. Gorton, M. D., W. R. Smith, Esq., Professor, etc., Nicholas Senn, M.D., M. H. Fisk, M. D., Prof. James W. Putnam, Judge Thos. W. Coleman, Judge Thos. McClellan, E. Webster Davis, M. D., James M. Brady, Esq., M. Etna Worden, M. D., J. J. Scott, M. D., A. C. Smith, M. D., E. L. Macomb Bristol, M. D., N. W. Lynde, M. D., Dr. Simon Fitch Nova Scotia.

CORRESPONDING.

M. Hemar, ex-President, Med. Leg. Society, Dr. G. Luys, Paul Berillon, Dr. Paul Garnier, Prof. Ozier, M. Daned, Advocate, M. Bornaston, Dr. Giraud, Dr. Le Blond, Judge Adolphe Guillote, Dr. Paul Richer, France; Dr. Vicente de la Gardia, Dr. Jose I. Toralbas, Dr. Nicholas Gutierrez, Dr. Jose M. Carbonell, Dr. Venancio Zorilla, Ldo, Antonio Govirs, Dr. Leopold Berriels, Y. Fernandez, Dr. Francisco de los S. Guzman, Ldo Pedro Gonzales Llorenta, Cuba, Prof. Stienon, Dr. Thiey, Prof. Crim. Law, Prof. Camille Moreau, William C. Blanc, M. D., Belgium; Prof. Dr. August Forel, Prof. Dr. K. von Lilienthal, Prof. Dr. Carl Stoos, Judge Gustave Correvon, Dr. Prof. F. Meilli, Dr. Prof. Alfred Gautier, Judge Emil Zurcher, Prof. X. Gretener, Dr. Picott, Judge, Prof.

George Favey, Switzerland; J. G. Patijin, Advocate, J. G. C. P. Vrythoff, Prof. G. A. Van Hamel, A. O. H. Tellegen, M. D., Dr. J. van Deventer, Dr. G. Jelgersma, I. D. Fransen van de Putte, Minister of the Colonies, P. E. Hubrect, Secy. General, Dr. A. H. van Andel, D. A. Hertz, Prof. Dr. C. N. Kuhn, Dr. S. Doedes Breuning, Dr. S. J. Halbertsma, Dr. G. J. C. J. Schouten, Holland; Dr. Antonio, Henrigues de Silva, Hon. J. J. Tavario, Portugal; Hon. Prof. M. A. Wulfert, Russia; Prof. Dr. C. Goss, Denmark; Hon. Pierre Ivan Dautschoff, Hon. George Zgoueroff, Alexander Djakovitsch, Bulgaria; Director A. Grotenfelt, Findland; Erster Staatsanwalt Schwarz, Germany; Dr. Jur. Jehan Berg, Dr. Jur. Harald Smedal, Norway; Dr. A. O. Winroth, Dr. A. E. W. Upperstorm, Sweden; Geo. A. Nenadviotch, Editor, Hon. Panta J. Savitch, Servia; Prof. Dr. Jeronimio Vida, Spain; Dr. Hugo Beck, Emerich V. Havas, Budapest; Barone Garofalo, Dr. Fernando Puglia, Dr. Guglielmo Canterano, Dr. G. Andriani, Dr. R. Collella, Italy; Tonza Kawa Moto, M. D., Kanchiro Takaki, F. R. C. S., Dr. Kensai Ikeda, Tsunatsune Hashimoto M. D., Japan; Hon. L. E. Bleckley, Chief Justice, Ga.; Hon. R. D. Ray, Chief Justice, Mo.; Hon. John A. Peters, Chief Justice, Maine; Hon. George P. Raney, Chief Justice, Fla.; Hon. Willis Van Deventer, Chief Justice, Wyoming; Hon. Guy C. A. Corliss, Chief Justice, N. Dakota; Hon. C. J. Stone, Chief Justice, Ala.; Hon. C. A. Thayer, ex-Chief Justice, Oregon; Hon. D. Follett, Presiding Justice, Court of Appeals, New York; Hon. John W. Stayton, Chief Justice, Texas, Hon. Thomas H. Woods, Chief Justice, Miss.; Hon. Henry A. Blake, Montana; Charles Mercier, M. B , London; Dr. Richard J. Dunglison, Phila., Pa.; Hon. Charles B. Andrews, Chief Justice, Conn.

Frederic Bateman, M.D., Norwich, England; Prof. Cæsar Lombroso, Italy; Havelock Ellis, M.D., London, England; Prof. Matthias Duval, Director of the Laboratory of Anthropology Paris, France; Prof. Bernheim, Nancy, France; Prof. Liegeois, Nancy, France; Prof. Beaunis, Nancy, France; Judge Walter Clark, Supreme Court, Raleigh, N. Carolina; Chief Justice A. C. Snyder, West Virginia; Chief Justice Joseph L. Lewis, Kentucky; Chief Justice Joseph Given, Iowa; Chief Justice W. H. Batty, California; Chief Justice J. C. Helm, Colorado; Judge Byron K. Elliot, Supreme Court of Indiana; Judge Wm. E. Beck, ex-Chief-Justice of Colorado; Judge E. W. Seymour, Supreme Court of Connecticut; Judge A. E. Maxwell, ex-Chief Justice of Florida; Judge H. L. Mitchel, Supreme Court of Florida; Judge M. A. Blandford, Supreme Court of Georgia; Judge Thomas J. Simmons, Supreme Court of Georgia: H. W. McLaughlin, Denver, Colorado, Prof. Kemp P. Battle, University of North Carolina; Chas. Edgworth Jones, Esq., Augusta, Georgia.

PORTRAITS.

5. The publication of groups of portraits of Legal, Judicial and Scientific members of the body and the International Congress has excited great interest in the Society and among its cotemporaries home and abroad.

It will be continued during the year to come and will also embrace the Judiciary of North America under the auspices of THE MEDICO-LEGAL JOURNAL.

FINANCES.

The total receipts of the Treasurer for the year 1890, as reported by that officer, were $1,121.66, and the total disbursements as near as I can ascertain them, $1,040.76. Leaving a large amount unpaid dues in arrears due from members.

THE PROGRESS OF THE SCIENCE.

The Science of Medical Jurisprudence is steadily and rapidly advancing. The Medical profession have been more awake to its importance and value in the past than the Legal.

This is now changing. Men of eminence, both upon the Bench and at the Bar, are recognizing its true relation to the Bar.

The study of the science progresses, and has been stimulated greatly by the labors and influence of this body and in other auxiliary associations :

1. The Medical Jurisprudence Society of Philadelphia is in a most flourishing condition. Its officers are :

President, Henry Leffman, M. D.; 1st Vice-President, J. Levering Jones; 2d Vice-President, J. Hendric Lloyd, M. D.; Secretary, Francis X. Dercum ; Treasurer, Paschal H. Coggins; Recorder, Milton Bradfield, M. D. It has a large membership, and original papers are read monthly at its sessions.

2. The Medico-Legal Society of Chicago has made great progress and is doing good work. Its officers are :

President, Dr. E. J. Doering ; Vice-Presidents, Dr. B. Bettman, Judge O. H. Horton; Secretary, Dr. Ed. B. Weston ; Treasurer, Dr. L. L. MacArthur.

3. The Medico-Legal Society of Denver, Colorado, has been formally organized. Its officers are as follows :

President, Judge Geo. Allen; Vice-President, Dr. J. W. Graham ; Secretary, Dr. H. W. McLanthlin ; Treasurer Mr. William Clark ; Board of Directors, Dr. J. T. Eskridge, Chairman, Dr. H. W. McLaughlin, Judge E. O. Le Fevre.

4. The Medical Examiners of the State of Massachusetts, under the new law abolishing the office of coroner, organized a society called the Medico-Legal Society of Massachusetts.

While lawyers or chemists, as such, are not eligible to membership, this society has by its labors contributed very important and most valuable contributions to forensic medicine.

The Medico-Legal Society of Rhode Island is organized in the same manner and upon the same lines as that of Massachusetts, and it is doing a like work. Its officers are :

President, J. Howard Morgan, M. D., of Westerly ; Vice-President, C. A. Barnard, M. D., of Centredale ; Secretary and Treasurer, H. Goodwin MacKaye, M. D., of Newport ; Censors (one for each county), G. D. Wilcox, M. D., Providence County ; J. Winsor, M. D., Kent County ; G. L. Church, M. D., Bristol County ; P. K. Taylor, M. D., Washington County ; H. Goodwin MacKaye, M. D., Newport County.

The annual meeting and election of officers is held the third Thursday in July.

All meetings are held in Providence.

The only paper read before the Society in 1890 was by P. K. Taylor, M. D., and was entitled "Some Desirable Changes in the Medical Examiner Law." This was read at the meeting held April 17th.

6. A movement is on foot to organize a similar society for Wisconsin, in the city of Milwaukee.

It will be thus seen that in America much greater interest is felt in the science than in other countries at the present time.

7 The International Congress of Medical Jurisprudence organized in this city in June, 1889, for a second session in 1892, continues to attract attention, especially in foreign countries.

The following correspondence between your chairman and Mr. Secretary Blaine illustrates the sympathy

felt by the Government of the United States for the success of the movement, and has been greatly instrumental in interesting eminent men of science in foreign countries to operate in the work.

Office of the President of the Medico-Legal Society of New York, No. 57 Broadway, N. Y., March 31st, 1890.

Hon. James G. Blaine, Secretary of State, Washington, D. C.

DEAR SIR.—I have the honor to enclose a circular we are sending in the English, French, German and Spanish languages, to the various countries of the world, asking co-operation with the International Medico-Legal Congress, which will be held in 1892 in this country.

Its first session was held in June, 1889, of which I send the preliminary transactions and roll of delegates.

The French circular enclosed shows the officers at this moment, and as Vice-Presidents for the various countries are announced, they will be added to those already appointed. Inspection of the names of the eminent men, who have already lent their names to this project, emboldens me to request the countenance of the American Government, to this movement in aid of this science.

Among foreign peoples, the knowledge of the approval of the Home Government, is of vast consequence to the success of scientific endeavor.

The aid, lent by the French Government, to the Scientific Congresses in Paris last year, gave an enormous impetus and importance, to that wonderful success, which added new lustre to the glory of France.

We do not desire any pecuniary assistance from the Government of the United States.

The letters you so kindly sent me last summer were of enormous value to me, in interesting eminent men of science, in the countries of Europe in the movement.

Such a letter of sympathy, with the objects and purposes of our present endeavor, as you can give, will I think be of great value, and will in many countries, especially the Spanish speaking countries on this continent, be of commanding importance.

I am, sir, with high personal regard,

Very faithfully yours,

CLARK BELL.

Department of State, Washington, April 17, 1890.

Clark Bell, Esq., President of the Medico-Legal Society, No. 57 Broadway, New York City.

DEAR SIR,—I have received your letter of the 31st. ultimo, enclosing copies of circulars which you are sending to the various countries of the world, inviting co-operation for the Congress, which will be convened in 1892 in the United States, for the discussion of medical jurisprudence.

The importance of such a gathering as you propose cannot, it would seem, be overestimated. The intelligent discussion of scientific questions, especially those which so closely affect the human family, by a body of gentlemen learned in medico-legal science, must prove of especial value, and should be worthy of every effort, which has for its mission the amelioration of the condition of mankind.

My individual sympathy in the objects and purposes of your conference is very great, and I trust that the results of such a meeting as you propose may correspond, to the aims you have in view, as I have no doubt they will.

I am, dear sir, very truly yours,

JAMES G. BLAINE.

The following gentlemen have already given their promise to contribute papers to that congress :

Prof. Dr. Paul Kowalewsky, of Kharkoff, Russia ; Prof. Dr. Mierzezewski, St. Petersburg, Russia ; Dr. Chas. H. Hughes, St. Louis, Mo.; Dr. Daniel Clark, Toronto, Canada; Dr. Thomas G. Morton, Philadelphia, Pa.; Dr. Jules Morel, Ghent, Belgium ; Clark Bell, Esq., New York City ; A. Wood Renton, Esq., London, England ; Judge H. M. Somerville, of Alabama ; Prof. Marshall D. Ewell, of Chicago ; Dr. S. V. Clevenger, of Chicago ; Dr. Edward Payson Thwing of, N. Y. ; Dr. Henry Leffman, of Philadelphia ; Moritz Ellinger, Esq., of N. Y.

I submit herewith a circular letter, which has been sent and will be sent to men of science in foreign countries, which has already been printed by this Society in the English, French, German and Spanish languages for use in foreign countries, together with a list in part of the present enrolled members of that Congress and its officers, to illustrate the importance and significance of its labor, and the relation it bears to the promotion and growth of Medical Jurisprudence, in our era of the world's civilization, and I call on all students of the science in all countries to co-operate in this important movement.

I will thank the Vice-Presidents to forward to me the title of the papers, they will submit or that have been or will be contributed from each country.

FOREIGN.

The interest abroad during the past year has been evinced more in the acquisition of members in the Active and Corresponding list. In no country, however, has there been so much progress as our own.

I have not been made aware of the organization of any new Medico-Legal Society in any foreign country,

though the subject is under consideration in Italy and other countries.

The Medico-Legal Society of France continues its work, the labor reaching the public in the columns of "Annales de Hygiene et de Medicine Legale."

A perusal of the eminent names added to our Corresponding list will show the interest felt in foreign lands and in the several States of the American Union in the work of the body.

ELECTRICITY AND THE DEATH PENALTY IN NEW YORK.

Only one capital execution has occurred in 1890 under the new statute.

The details, as they were given to the public press, gave rise to severe criticism and animadversion against the law.

The provisions of the statute restricting publications had antagonized many journals, and the witnesses of Kemlers execution, with few exceptions, mistook the muscular action frequently accompanying instantaneous death or seemed not to understand them, and an effort was made by the enemies of the law on the one-hand and the friends of the abolition of capital punishment on the other, to convey the impression that death was not instantaneous, and was accompanied by pain and suffering.

Nothing, however, was farther from the truth. The death was unaccompanied by any conscious pain, was instantaneous, and characterized by the usual phenomena resulting from decapitation, piercing the brain with a bullet, and kindred methods, and nothing more.

Those best qualified to judge are positive that there was no consciousness after the instant that the current was applied.

The constitutionality of the law has been twice passed upon by the Supreme Court of the United States and by

the court of last resort in New York and its provisions sustained by these tribunals.

Calmer and cooler judgment, is replacing the excitement aroused by the press, and there is no apparent likelihood of any change in the law, until the moment arrives when the death penalty for crime is abolished.

CRIMINALITY AND CRIMINAL ANTHROPOLOGY.

Recent investigations of careful writers on both sides the Atlantic have brought to the attention of jurists and publicists, the necessity of considering from the foundations, not so much our penal statutes, as the criminal himself, and the best methods to be pursued by society in dealing with him.

The writings of Lombroso, of Ferri, and others of the Italian school, the work of the International Congress, both at Rome and later in Paris in 1889, the array of eminent men who have taken up this discussion in France, Germany, England and in our own country, has excited enormous interest throughout the scientific world. The International Union of Criminal Law, founded recently and holding its first public congress in Brussels in 1889, and its second congress at Berne, Switzerland, in August, 1890, present sharply defined, the magnitude and importance of the discussion now going on.

The Medico-Legal Society named delegates to the congress at Berne, and one of these attended, and a report of that delegate has been made to the body.

It has occurred to me, that the study of this subject could be better advanced by the organization of a separate section upon Criminality and Criminal Anthropology, whose labors could be conducted by a chairman, secretary and treasurer, and if needs be a special com-

mittee who could act *en rapport* with the International Union of Penal Law directly and wholly upon the subjects involved.

This section could be composed of such members of this society as desire to devote any attention to the study, and to all other persons, whether members of the society or not, who enrolled and paid an enrolling fee of $1.25 to cover expenses of printing, postage, etc.

Three members of the Union now reside in the United States, some of whom would take charge of the organization, and their labors could be annually reported to this body, and to the International Union.

If this recommendation meets with favor, the chair will name a provisional committee to take charge of the initiatory labor.

THE MORGUE IN NEW YORK.

It has been a source of surprise to scientists that we have not in the great metropolis of the nation taken steps to place the morgue on a proper scientific basis.

This subject has been previously brought to the attention of this body by me. A committee has considered the subject and makes a report at this meeting recommending that the morgue be reorganized and placed on a scientific basis, after the manner of the morgue in Paris and under the charge of the best scientific skill commensurate with the civilization of our day and the needs of the city.

No greater name in medical and toxicological science exists in France than Brouardel, who as the head of the morgue made a seat and centre for toxicological and other germane studies that reflects the greatest honor upon France.

We have men of the highest skill here who should oc-

copy a similar relation to the morgue in New York, and if the press the Academy of Medicine and other powerful organizations second our movement, this reform should have speedy realization.

NATIONAL AND STATE CHEMISTS.

The committee having in charge this subject make a report favoring the appointment of a national chemist at the seat of Government, with a salary that would secure the highest and best service, and a fully equipped laboratory second to none in the world, and recommend that the services of this sworn public official should be at the call of both the people, and of all persons accused of crime, and on trial in the national tribunals.

They also recommend similar action in the several states for the state tribunals.

To state these reforms should alone enlist thoughtful minds, and all legislators to consider them with favor.

The subject was laid before the American Chemical Society in a short paper by myself, at its recent session in Philadelphia on 31st December, 1890, and the aid of that organization invoked in the movement.

HYPNOTISM.

No question of the hour excites more interest among scientific observers than this.

The committee of this society have been too scattered to secure a general conference or session.

Observations have been conducted by the several members. A preliminary report is now made to the society from that committee, defining the present status of the science or phenomena, and laying out a plan of conducting examinations on the undeveloped and doubtful problems.

The recent remarkable case of Ayraud and Bompard which have occupied the French tribunals bring into sharp relief the position taken by the School of Nancy and those scientists who hold that crime can be committed unconsciously by suggestion, and the view of Brouardel, Motet, and others who deny these conclusions.

This and other questions of this wonderful phenomena, are well worth the attention of medical men and scientists, and will constitute an important field of the labor of the society in the present year.

If sufficient interest is taken I should recommend the formation of a separate section for the study of this phenomena, open to non-members of the society at a nominal enrolling fee, under the charge of a chairman, secretary and treasurer of the section.

PSYCHICAL RESEARCH.

Students of psychology will understand the public interest felt at the present moment in the interesting studies new going forward on both sides the Atlantic.

The communication of Prof. James, of Harvard, laid before the body shows the field of inquiry of that eminent psychologist. It is quite germane to our studies.

It could be observed and studied by either a standing committee of the body, or by a section acting in co-operation with other inquirers, as thought best. I commend it to the attention of this society, and if sufficient interest is taken will cheerfully co-operate in the labor, and to that end invite suggestions and correspondence from members or others who take an interest in this study.

PRIZE ESSAYS.

The award of the prize of 1889 and 1890, offered by myself and the society has not yet been made, owing to the difficulty of obtaining unaminous action and divergent views, in committee the difficulty of meeting and other circumstances have retarded action.

A prize has been offered by the society of $100 for the best essay, and $50 for the second best, which will close on April 1, 1891, and to which it is hoped many will contribute.

THR LIBRARY.

It is a source of regret that our library is still houseless and homeless. It is to be hoped that provision will be made in the near future ior its care.

Members should however feel under obligations to send one volume each year, to swell the number of its volumes, and a special committee, of which the librarian should be chairman, should be named, to arrange some plan to bring its treasures where the members could see and use them.

FINALLY.

The path that lies before this body for the coming year is to complete and round up the work we have on hand, that which we have already undertaken. This will task all our energies and require all our resources, with thanks for a continuance of that support which has so greatly encouraged the chair and for a unanimity in our work, that is most significant and charming I invite you to continue in the labor that has so greatly crowned our efforts, during the year just closed.

REPORT OF THE STANDING COMMITTEE ON NATIONAL AND STATE CHEMISTS.

To the Medico-Legal Society—Gentlemen:

The standing committee to whom was referred the recommendations of the President, Mr. Clark Bell, in his inaugural address to the society, pronounced January, 1887, and subsequently renewed by him at various times, regarding the appointment of a national chemist by the Government of the United States, to be placed at the service of the Government and accused persons in all criminal trials, and for similar action in the States, beg leave to submit the following

REPORT.

That we have carefully considered the matter in all its aspects, and the present methods of procuring suitable chemical evidence in criminal trials, both in the State and national courts, and we recommend to the Society the adoption of the following resolutions, which we recommend that the Society submit to the Congress of the United States and the State Legislatures.

Resolved, That the creation of an official, to be known as the National Chemist, in the service of the Government, with a salary sufficient to command the highest available talent, and the establishment of a thoroughly equipped laboratory, which should be at the disposal of the Government or persons accused of crime, or of the State authorities, under suitable regulations, would be a measure that would reflect credit upon the nation, greatly assist the authorities in the administration of

justice, and elevate the character and standing of expert testimony in the courts.

2. *Resolved*, That the best interests, of the people of the various States of the Union, would be greatly subserved, by creating in each State an official to be known as the State Chemist, with sufficient salary to insure high skill in the discharge of official duty, and by establishing a competent and thoroughly equipped chemical laboratory.

That it be the duty of the State Chemist to act as well for the State and public authorities, as for all accused persons in all criminal trials, at the expense of the State.

All of which is respectfully submitted.

Dated New York, December, 1890.

VICTOR C. VAUGHAN, PH. D.,
Chairman.
H. A. MOTT, JR., PH. D., LL.D.,
Analytical Chemist.
GEO. B. MILLER, M. D.,
CLARK BELL,
President Medico-Legal Society, *ex-officio*.

NOTE.—This Report was unanimously approved and adopted at the meeting of the Medico-Legal Society, held January 14, 1891.

REPORT OF THE STANDING COMMITTEE ON THE MORGUE.

To the Medico-Legal Society :

The Committee to whom was referred the recommendations of the President, relative to the reorganization of the morgue in the city of New York, beg leave to submit the following

REPORT.

We have considered the subject as one entitled to be worthy the attention of the municipal authorities of the city, and are of the opinion that if the attention of Mayor Grant was called to the subject, and the pride of the civic authorities of the city aroused, important reforms would be speedily inaugurated.

We submit that the basis of the proper organization of the morgue should be substantially that adopted in the city of Paris, France.

The chief should be selected from one of the ablest physicians in the city, thoroughly informed on all questions of pathology and toxicology, and his staff should be composed of specialists in every branch of scientific research, so as to be able to conduct post mortems, to insure the detection of crime, in case it has been committed, even in the most obscure cases.

The importance of a morgue, thus equipped and conducted, as a factor in the detection of crime, cannot be overestimated.

At the morgue of Paris, under the leadership of Professor Brouardel, the greatest of living French toxicolo-

gists, the School of Study and Observation by his corps of assistants, was second to none in the world.

It is certain that the Academy of Medicine, and the entire medical profession of New York, would co-operate with the mayor and the civic authorities in any intelligent movement to place our morgue on a higher scientific basis. The salary of the chief should be the highest salary paid to any medical man in the city, and it should be sufficient to command the services of the ablest talent in the profession of chemistry and medicine, and especially such as had distinguished themselves in pathological studies and morbid anatomy.

We recommend that the subject be brought to the attention of the mayor and the municipal authorities by a committee to be named by the Society, and that the Medico-Legal Society recommend the reorganization of the morgue, substantially upon the basis of that of Paris, and pledge its efforts to elevate the standard of the scientific service of the morgue, and that the Committee be instructed to urge that at its head be placed the ablest scientific talent, within the reach of the city authorities.

Dated December 31st, 1890.

Clark Bell, Chairman.
Simon M. Ehrlich,
M. J. B. Messemer, M. D.,
Henry A. Mott, Jr., Ph. D.,
Phil. L. Donlin, M. D.

Note.—Approved and adopted unanimously by the Medico-Legal Society, January 14, 1891.

PRELIMINARY REPORT OF THE STANDING COMMITTEE ON HYPNOTISM.

To the Medico-Legal Society.

The Committee on Hypnotism beg leave to report, in part, a few facts indicative of progress in scientific inquiry.

The literature of the subject is growing opulent—a thousand titles are now recorded. The number of reputable investigators increases. Taken out of the hands of those whose aims and methods cast discredit on it, hypnotism is studied by members of each of the learned professions, vitally related as it is to the interests of which they are the natural custodians. It is safe to say that these facts are established:

1. Hypnosis, or artificial trance-sleep, is a subjective phenomenon. Here modern science joins issue with old-time mesmerism, the theory of some mysterious efflux from the operator. Hypnosis may be self-induced through expectation alone, through fright, by religious ecstasy or any enrapturing emotion.

2. Hypnosis is not in itself a disease. Neurotic conditions predispose one to the trance-sleep, but the strongest minds have also been enthralled. Their recorded visions have been an open book for centuries.

3. Hypnosis is recognized in three stages—lethargy, somnambulism and catalepsy. The transition may be immediate. The second is instantly induced in trained sensitives.

4. Hypnotism has been serviceable in medical and sur-

gical practice, both as a therapeutic agent and in some cases as an efficient and safe anæsthetic.

5. The illusory impressions created by hypnosis may be made to dominate and tyranize the subsequent actions of the subject. The following legal aspects present themselves:

1. Has the sensitive sought the operator, or has the operator used undue influence to gain control of him? 2. Are proper witnesses present? 3. Are possible elements of error eliminated, such as self-deception, simulation and malingering? 4. Is hypnosis a justifiable inquisitorial agent? 5. Do we need a reconstruction of the laws of evidence in view of the perversion—visual and otherwise—created by the trance? 6. Is any revision of the Penal Code desirable in view of these facts? Finally, should there be legal surveillance over private experiments or public exhibitions?

The committee will welcome suggestions on these or or other points, and any instructions as to methods of investigation of the matter referred to them by the Society.

Respectfully submitted,

E. Morgan, Jr., M. D., Chairman.
E. P. Thwing, M. D.,
T. P. Eskridge, M. D.,
Robt. Funkhouser, M. D.,
Theo. H. Kellogg, M. D.,
M. Ellinger,
Wilson McDonald, Sc.,
Clark Bell, President *ex-officio*.

Note.—This Report was submitted to the Medico-Legal Society from the Standing Committee, January 14, 1891, and was made the Special Order for discussion at February Meeting of 1891.

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International Medico-Legal Congress

OF 1891.

UNDER THE AUSPICES OF THE

MEDICO-LEGAL SOCIETY.

Office of the President,

No. 57 BROADWAY.

NEW YORK, April 1st, 1891.

DEAR SIR:

The session of June, 1889, of the International Congress of Medical Jurisprudence was successful beyond the most sanguine expectations of its promoters. It perfected a permanent organization and provided for the selection of an additional Vice-President from each State and Territory of the American Union, and from each foreign province, State and Country who had members in the organization that took an interest in the success of the movement.

Future meetings were authorized to be called by the Executive Officers, a list of whom are herewith sent you.

The expenses of publishing all the Papers read at this Congress, with a record of its transactions and the proceedings of the Banquet, fill a large volume, the expense of which has been about $800.00. The Executive Officers were authorized to elect additional members into the organization, the only expense of which is the enrolling fee of $3.00, which entitles the member to the Bulletin free.

Will you unite in this movement with a view of making it International, and will you suggest a suitable name for Vice-President from your State, Territory, Province or Country, if one has not already been sent. If this effort is received with favor by the members of the Medico-Legal Society—Active, Corresponding and Honorary alone, without counting others—it will provide for the publication of the transactions and the Papers read before the Congress, and lay on firm and sure foundations the International work of promoting the advancement of Medical Jurisprudence, not alone within the United States of America, but throughout the civilized world.

Your co-operation in this effort is earnestly solicited in your locality, and your name will be laid before the Executive Officers for enrollment as a member on receipt of the enrolling fee, which can be sent to any officer of the body.

The Officers elected by the Congress held June 4th to 7th, 1889, in New York, were as follows:

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The President was empowered and directed by the Congress to appoint additional Vice-Presidents for the various States, Territories, Provinces and Countries, which will be done in the future.

Members of the Congress receiving this circular, who have not sent their enrolling fee, will please do so, and circulate this among those who take an interest in the Science.

Your early response is requested to either of the undersigned.

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57 Broadway, N. Y.

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